

AIR CONDITIONING & REFRIGERATION

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NEWS

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Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Gag of the Week
Big Market In India
Why Interest Rates
Are Rising
How Do You Rate?
Imaginative Advertising
A Printer's Calendar
Real Fine Thoughts

Stories of the Week

"Ah, yes," Sam told a visitor. "My partner and I have our ups and downs, but we get along pretty well."

The visitor departed. Moment of silence.

"You've been holding out on me," screamed Sam's partner. "In what month did we have some ups?"

Cub Scouts "den mother" called for reports on what they'd done to help their own mothers. Such chores as washing dishes, carrying out trash, etc., were mentioned frequently. But Stevie's was best of all.

"I kept out of her way," he said.

Gag of the Week

After wearing his feet down to the nubs touring the Chicago Air Conditioning Exposition, Chrysler Airtemp's President Carl Buchholzer said:

"I feel three inches shorter."
Best witticism of the year.

Never before in our history has America's horn of plenty had such a toot!—*The Detroit Free Press*.

In an election year everybody is for the little fellow—except basketball coaches.

If we learn how to give ourselves, to forgive others, and to live with thanksgiving, we need not seek happiness—it will seek us.—JOSEPH FORT NEWTON.

Big Market In India

Total air conditioning sales in India during 1957 should approach \$3,000,000, according to B. L. Dua of Calcutta. Mr. Dua, distributor for Trane, Penn Controls, Imperial Brass, and other import items from America, visited the NEWS not long ago.

Practically all of that air conditioning equipment will be manufactured in the United States. Carrier is getting approximately 70% of the business in India, he estimates, with York, Worthington, and Trane dividing up the remainder.

Mr. Dua insists that the future is unlimited for air conditioning.—*(Concluded on Page 16, Col. 1)*

Room Cooler Ratings Rumors:

Talk of Complaints Is Not Verified, But ARI Will Set Procedure To Handle Same

WASHINGTON, D. C.—With stories circulating around that certain manufacturers of room air conditioners are questioning the validity of the published B.t.u. ratings of such units made by other manufacturers, some moves are being made to provide an amiable yet reliable way to check on the ratings.

Since 16 manufacturers have published ratings of their room units (and a 17th has provided information on part of the line) it was inevitable that some questions might arise on the ratings.

In reality, there has been no real hassle over the matter as yet. None of the stories circulated on the situation has named names, and individual manufacturers queried on the matter have denied being a part to any controversy.

But the Air-Conditioning & Refrigeration Institute, which developed and is sponsoring ARI Standard 110-56 under which the room units are rated, is cognizant of the problems and is working towards a procedure which will probably be placed before the Room Air Conditioner Section of the Institute at the

(Concluded on Page 37, Col. 1)

Fresh'nd-Aire Enters Packaged Conditioner Field

CHICAGO—Cory Corp. President J. W. Alsdorf announced that his firm will market two new full lines of Fresh'nd-Aire residential and commercial self-contained air conditioning systems for 1957.

This move marks Fresh'nd-Aire's initial venture into the field of complete packaged air conditioning systems for commercial and institutional use. For many years, Fresh'nd-Aire has manufactured and sold con-

(Concluded on Back Page, Col. 1)

Acme Cooling Towers Feature Lightweight Plastic Pack

JACKSON, Mich. — A new series of cooling towers incorporating a "revolutionary" lightweight plastic pack; two new series of packaged liquid chillers from 1¼ hp. through 5 hp.; and a series of nine direct-drive packaged liquid chillers with capacities ranging from 20 through 125 tons, are among the new 1957 lines introduced by Acme Industries, Inc. here, reports W. R. Eichelberger, vice president and director of sales.

The "Flow-Mizer" cooling towers, in capacities of from 20 through 200 tons, feature a design in which the light-weight

(Concluded on Page 8, Col. 3)

NBBB Tells Locals To Request Use of B.t.u. In Ad Copy

NEW YORK CITY—The National Better Business Bureau has taken a stand for the B.t.u. rating (under the ARI standard) of room air conditioners.

A bulletin to local NBBB offices advises that whenever a claim for cooling capacity is made in advertising, or implied as through a statement of "tons" or "horsepower" the B.t.u. rating should also be disclosed in the advertising.

The national bulletin also advises that in any standards on advertising which bureaus prepare in cooperation with local distributors, the local bureau will be justified in requiring that the B.t.u. rating be disclosed in advertising whenever a claim for cooling capacity is made, directly or by implication.

The NBBB is assuming that the B.t.u. ratings as given to its office by ARI are correct, according to Allan F. Backman,

(Concluded on Page 4, Col. 5)

NCRSA Members Report 14% Sales Increase, 18% Net Profit Rise In '56

PHILADELPHIA—The National Commercial Refrigerator Sales Association disclosed recently that distributor members participating in its quarterly report on business conditions had an average increase in total dollar sales of 13.35% for 1956 as compared to 1955.

Sales during the fourth quarter of last year were 18.56% ahead of the same period of 1955.

Dollar net profit before taxes in 1956 rose an average of 21.37% over the previous year.

Inventory and accounts receivable on Dec. 31, 1956 were up 2.55% and 7.32%, respectively, compared with the same date a year earlier.

Picture Coverage Of Chicago Show

Because it is virtually impossible to cover a trade show such as the International Heating & Air Conditioning Exposition adequately with a descriptive story, the NEWS for many years has provided "picture coverage" of such industry shows.

So in this issue, on pages 12, 15, 26, 27, 29, 32, and 37 the NEWS presents part of its picture coverage of the Exposition. Time and space limitations made it impossible to present all the pictures; the balance will be in the March 18 issue.

ASHAE To Up Research Work

CHICAGO—A continuing expansion of its research activities was outlined to the American Society of Heating and Air Conditioning Engineers at its annual meeting here.

Some of the research may lead to some modifications of the Comfort and Effective Temperature Charts developed by the society.

The ASHAE will be faced with the necessity of finding a new director of research, as it was announced to the meeting that E. R. Kaiser, who has held that post, has resigned to take another position.

Peter B. Gordon was elected president of the Society. He is a vice president of Wolff and Munier, Inc., New York City. First vice president is Elmer R.

(Concluded on Page 6, Col. 1)

Specifications of Conditioners, Mar. 18

The next (March 18) issue of AIR CONDITIONING & REFRIGERATION NEWS will be the Air Conditioning "Show Case" issue, containing specifications on all major 1957 packaged air conditioner lines. It will contain other much pertinent and useful information.

See page 32 for prices on extra copies, and send in your orders now.

Vote Purchase Of Brunner By Dunham-Bush

Majority Given Plan; Compressor Firm Will Become Subsidiary

WEST HARTFORD, Conn.—Dunham-Bush, Inc. here has acquired the assets of Brunner Mfg. Co., Utica, N. Y., the stockholders endorsing by a wide margin the action previously taken by the board of directors of both companies in unanimously accepting a purchase agreement.

The vote at the Dunham-Bush, Inc. stockholders' meeting was 783,264 shares in favor and 1,750 shares against the proposal. The vote at the Brunner stockholders' meeting was 474,133 shares in favor, and 9,009 shares against the proposal.

Dunham-Bush has been primarily identified as a manufacturer of heat transfer type equipment for the air conditioning, refrigeration, and heating fields, but recently has been introducing some packaged equipment. Brunner has concentrated on the manufacture of compressors and condensing units.

(Concluded on Page 4, Col. 4)

Milwaukee Airport Central Cooling Draws Ire of RACCA Group

MILWAUKEE—A hassle over what kind of air conditioning equipment should be installed to serve the terminal at Gen. Mitchell field—packaged units or a central system—ended in an apparent victory for the latter.

Contract specifications called for a central system. However, the local Refrigeration & Air Conditioning Contractors Association recommended use of individual self-contained packaged units exclusively.

Association spokesmen, including A. C. Reinhart, president, told a subcommittee of the county board's airport committee and county officials that the county could save from \$50,000 to \$75,000 by installing packaged air conditioners. The association further maintained that additional savings could be realized on maintenance costs.

Reinhart explained to AIR CONDITIONING & REFRIGERATION NEWS that the association proposed use of 21 package units plus nine window units, totaling 214 tons. The group said the job could be done for under \$100,000. Reinhart added that when the association representatives were asked if they would sign a surety bond to that effect, "we said we would."

Contract specifications, Reinhart said, called for use of a

(Concluded on Page 2, Col. 3)

BEHIND PAGE ONE . . .

Products at ASHAE Show

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Dairy Eliminates Frosting Problem

Tandem Units Key To Frost Free System..... 30

Detroit Heating Men Will Discuss 'Dealer Profits' on March 14

DETROIT — The subject of "Dealer Profits" will be discussed March 14 when the Detroit Warm Air Heating Association holds its meeting in the Shelby room of the Fort Shelby hotel.

Harold B. Donley, distribution division manager of Bryant Mfg. Co., will be the speaker at the 8 p.m. meeting.

Board of directors will meet at 5 p.m., dinner is at 6:30—\$4.25 a person, according to the announcement.

The DWAHA also noted that the Michigan Heating & Sheet Metal Association will hold its 46th annual convention at the Hotel Bancroft in Saginaw, Mich. Thursday and Friday, March 21-22.

Sun's Energy Will Detonate Dynamite At Ground Breaking

DALLAS — At ceremonies highlighted by conversion of the sun's energy into electricity detonating dynamite to break ground, Texas Instruments Inc. began construction of its new 280,000-sq. ft. \$4 million plant for the Semiconductor-Components Div.

A significant feature of the new building, it was explained, will be a 60,000-sq. ft. "ultra air conditioned" area to contain critical production processes. Air will be filtered by both electrostatic and mechanical means to 99.7% purity, humidity will be kept at "precisely" 20%, and a slight positive pressure will be maintained.

The Semiconductor-Components Div. manufactures transistors, diodes, rectifiers, etc.

Terminal To Install Central System--

(Concluded from Page 1)

200-hp. centrifugal compressor and some 160 under-window units and "packaged" units. He stated that the association submitted to the subcommittee of the airport committee a proposal for the all-packaged system and a letter listing advantages of this system compared to a central system.

In addition to the savings on the installation cost, Reinhart pointed out, "we stressed the cost of changing filters on 160 units once a month, compared with that for changing the filters on the 30 units we proposed. We also stressed the fact that the packaged units would carry a 5-year warranty, compared with a 1-year warranty on the central system."

Reinhart, who heads Real Refrigeration, Inc., noted that the

association's proposal also included heating coils in some units and also extra wall-strip heating where called for in the specifications.

Reinhart asked the airport committee not to open bids until the association's plan had been studied. After studying the proposal, the subcommittee of that committee rejected it on the ground that although the package system might be cheaper to install, it would cost more to maintain. Reinhart called this reasoning "entirely wrong."

Fred A. Melms, county construction superintendent, had warned the committee that if it accepted the packaged system he would ask to be relieved of "any responsibility for its operation and maintenance."

Melms also told the airport committee that the contractors'

association, by proposing the alternate type of air conditioning at the terminal, caused a two-month delay in the opening bids on the project. One result, he asserted, is that the job cannot be finished in time for the hot summer months.

"In my estimation," Melms said in a letter to the committee, "it is regrettable that tactics such as those employed to delay the opening of bona fide bids is tolerated. The group comprising the association cannot bid on the air conditioning system because they cannot comply with the plans and specifications."

Asked to comment on this statement, Reinhart said: "That is not true because many of our group could have bid on the central system."

LOW BID \$157,699

When the bids were opened, the low proposal was considerably less than the county's estimate of \$250,000. Of six offers received, the low bid was that of Paul J. Grunau Co., Milwaukee, for \$157,699.

However, the bid did not include electrical work, which the county estimate covered. Low bid for that work was submitted by Magaw Electric Co., Milwaukee, for \$25,600.

The committee referred the bids to Eugene Howard, director of public works, with instructions to report his recommendations to the committee at a special meeting.

Later, the county board awarded the air conditioning contract to the Grunau firm at a contract price of \$156,307. Melms explained that this was based on a deduction for an alternate compressor other than in the base bid. Contract for the electrical work was awarded to the Magaw company at its price.

238-TON CHILLED WATER SYSTEM TO BE INSTALLED

Melms said the system to be installed at the terminal will be a circulating, chilled water system "based on 238 tons, with a 250-ton compressor to allow for future needs."

He reported that the system will include 162 units in all, some of which will be under-window units and some modified packaged units. He said 35 to 40% of them will be combination heating and cooling units and the rest for cooling only.

The installation will include nine window units located at the extremities of the building. According to Melms, it would be impractical to tie these into the central system.


Asked why the central system was chosen over an all-packaged-unit installation, Melms said: "For the simple reason it was found on inquiry to some of the larger manufacturers of both types of equipment that they concurred with the consulting engineers that a central system would be the most practical."

Melms pointed out earlier that the contracts must be submitted to both the state and Federal governments after county approval. The Federal government will pay half the air conditioning cost and the county and state will split the other half.

He said it would take an estimated five months to complete the air conditioning job.

Let's talk cents

When you buy a low temperature system and check the TOTAL costs of both the low and high side, you'll be pleased to find that

KRAMER  **THERMOBANK**

COSTS NO MORE...

and you get so much more

ONLY... THERMOBANK provides positive reevaporator with ample heat supply.

ONLY... THERMOBANK completely protects the compressor — no liquid refrigerant to the compressor, no oil foaming, no motor overload.

ONLY... THERMOBANK makes possible the use of the "Low Temperature" compressor without overloading during defrost, making possible serious reductions in first cost as well as significant operating economies.

WRITE FOR MANUAL TV-320

KRAMER TRENTON CO. • Trenton 5, N.J.

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

For more information about products advertised on this page use Information Center, page 25.

- Only complete line of packaged steel cooling towers!
- Only Aquatowers are performance-proved in countless thousands of installations!
- Only Aquatowers are backed by 35 years of leadership in water cooling!
- Only Aquatowers are available when and where you need them through more than 300 suppliers!
- Only Marley Aquatowers are "complete" with such features as diffusion decks, closely packed filling, fan venturi.
- Only Marley Aquatowers have MarClad finish that defeats rust and corrosion.

Contractors and users who have benefited from Aquatower advantages all agree...



"Hi-Fi" is the word for Marley Aquatower design and performance

OTHER MARLEY TOWERS WITH UNIQUE RECORDS OF THEIR OWN



SPRATOWER®

Generally recognized as the standard of the industry for water cooling installations where minimum initial investment and lowest operating costs are essential.



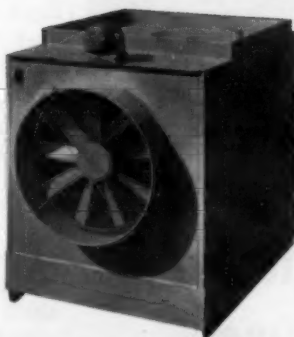
AQUACOLER®

The popular induced-draft counterflow tower that is equally at home indoors or out.

WOOD AQUATOWER®

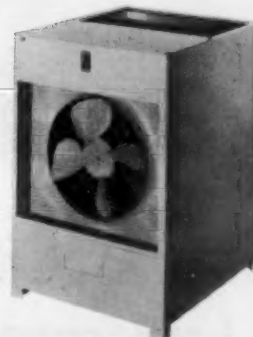


The "long-play" towers specifically designed for longest service life under the most corrosive operating conditions.



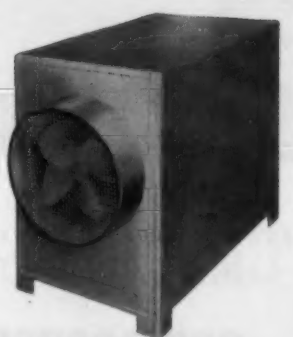
AQUATOWER® (large capacity)

Available in 6 models that provide the full performance water cooling ability and long service life essential to commercial refrigeration and air conditioning application. Fabricated of heavy gauge steel, ruggedness and durability are apparent in the construction of these towers. Their design incorporates a new ease of assembly and disassembly whenever required. These features plus operating and maintenance simplicity make them the first choice of discriminating buyers.



AQUATOWER® (medium capacity)

Available in 4 models that run the gamut of intermediate capacity applications. These heavy gauge steel units come fully assembled for easy field application. Highlight features include MarClad® finish... readily removable open distribution basin... quiet, deep-pitched fan... Marley lifetime nailless filling. Like other Aquatowers, they can be located indoors or out.



AQUATOWER® (residential capacity)

Models 4102 and 4103 are designed for 2 to 4 tons of refrigeration or air conditioning. Installation, operation and maintenance are extremely simple, yet these small models incorporate the high-performance design features of larger Aquatowers. MarClad® finish lends that adaptability and compatibility that is so appealing to owners.

*Trademark Reg.

For information, call your Marley Engineering Sales Office in any of 55 cities or your local Marley supplier in 300 cities.



The Marley Company

Kansas City, Missouri

To Help Veterans Buy Homes

FHA May Cut Down Payments If Congress Holds G-I Loan Interest Rate Ceiling

WASHINGTON, D. C. — An immediate reduction in Federal Housing Administration down payment requirements would be "seriously considered" if the interest rate ceiling on GI loans is not raised, stated Albert Cole, Federal housing chief.

He told a House Banking subcommittee the Administration might order the lower FHA down payments if it decided that was the only way to help veterans buy new housing in the event Congress fails to permit a boost in the maximum ceiling on loans backed by the Veterans Administration.

Government housing officials have contended the GI housing

program will dry up under the current 4½% VA rate ceiling because the interest isn't high enough to attract sufficient money from lenders. FHA rate ceiling already is at 5%.

If this occurred, veterans could seek FHA-backed loans but the down payment would be much higher than the 2% required on GI loans. So, if Congress approved the administration's proposals for lower FHA down payments, the government would likely put the lower requirement into effect to help veterans, Cole said. This would ease the payment of others as well.

Cole urged Congress to ap-

prove the "package" request for lower FHA down payment terms and an increase to 5% in the maximum interest rate permissible on loans either guaranteed or made by the VA.

If this is done, Cole continued, the new FHA terms might not have to be ordered until the VA program expires in July, 1958. The housing official added that the FHA program might also be put into effect at any time "if economic conditions warrant."

Setting the stage for an early showdown on the VA interest rate proposal, the House Rules committee cleared for floor action, probably this week, a measure approved by the House Veterans' Affairs committee that would continue present interest rate ceiling and expand the VA's direct loan program. Others have said they would introduce an amendment providing for an interest rise.

Brunner Sale--

(Concluded from Page 1, Col. 5)

Brunner Mfg. Co., at Utica, will be operated as The Brunner Div. of Dunham-Bush, Inc. and The Brunner Co., at Gainesville, Ga., will be a wholly-owned subsidiary of Dunham-Bush, Inc.

Cecil Boling, president of Dunham-Bush, expressed his pleasure at the near-unanimous approval of the purchase by stockholders of both companies, stating that Dunham-Bush, Inc. was now in a position "to render a complete service to the air conditioning, refrigeration, and heating industry with resulting benefit to the stockholders, customers, and employees of the company."

Dunham-Bush was formed in June, 1956 through a merger of Bush Mfg. Co. of West Hartford and the C. A. Dunham Co. of Chicago. Bush, founded in 1907, manufactured commercial refrigeration and air conditioning equipment and heat transfer products.

Dunham, in business since 1903, made a line of heating equipment. Brunner was started in 1906 and has been identified primarily with the manufacture of compressors and refrigeration condensing units.

Dunham-Bush has plants located in West Hartford; Brewster, N. Y.; Croton Falls, N. Y.; Riverside, Calif.; Michigan City, Ind.; Marshalltown, Iowa; Toronto, Ont., Can.; and London, England. Brunner has plants at Utica, and at Gainesville, Ga.

In a statement made at the time that the boards approved the proposal, Boling said that it could be anticipated that annual sales of the combined companies would be approximately \$40 million.

Leake Stamping Merges Into Monarch Products

MONROE, Mich.—George D. Berbyuk, president of Monarch Products Co., Hazel Park, Mich., announced that Leake Stamping Co. here has recently been consolidated with and merged into Monarch Products.

He said Leake Stamping will continue to operate as a separate division of Monarch Products under the supervision of Joseph S. Leich, division manager. Leich was formerly vice president and general manager of Industrial Stamping Co., Detroit.

All present personnel have been retained and there will be no change in operations, location, and objectives with the desire being to substantially expand present activity in the job stamping field, it was stated.

James M. Leake, formerly president and general manager, will continue to be responsible for the division engineering functions as vice president in charge of engineering.

NBBB Recommends--

(Concluded from Page 1, Col. 3)

executive vice president of the bureau. He is said to have declared that if the bureau got any evidence that inaccurate ratings were being published, it might even go so far as to make its own tests to determine the facts.

IF RATINGS IN ERROR WOULD ASK MFR. TO WITHDRAW ADVERTISING

If it were then determined that the ratings were in error, the NBBB would ask the manufacturer involved to withdraw all advertising and printed material that made reference to the incorrect ratings.

The bulletin from the NBBB national headquarters to local offices is headed "B.t.u. Ratings for Room Air Conditioners," and reads:

"Attached is a press release from the Air-Conditioning & Refrigeration Institute on the above subject. Also attached is a tabulation of the B.t.u. per hour ratings of 1957 room air conditioner lines being made by 15 manufacturers participating in ARI's program for industry-wide adoption of B.t.u. ratings arrived at as a result of tests prescribed in ARI Standard 110-56.

"You will note that the ratings of additional manufacturers are expected and, as soon as they become available, we will send them to you.

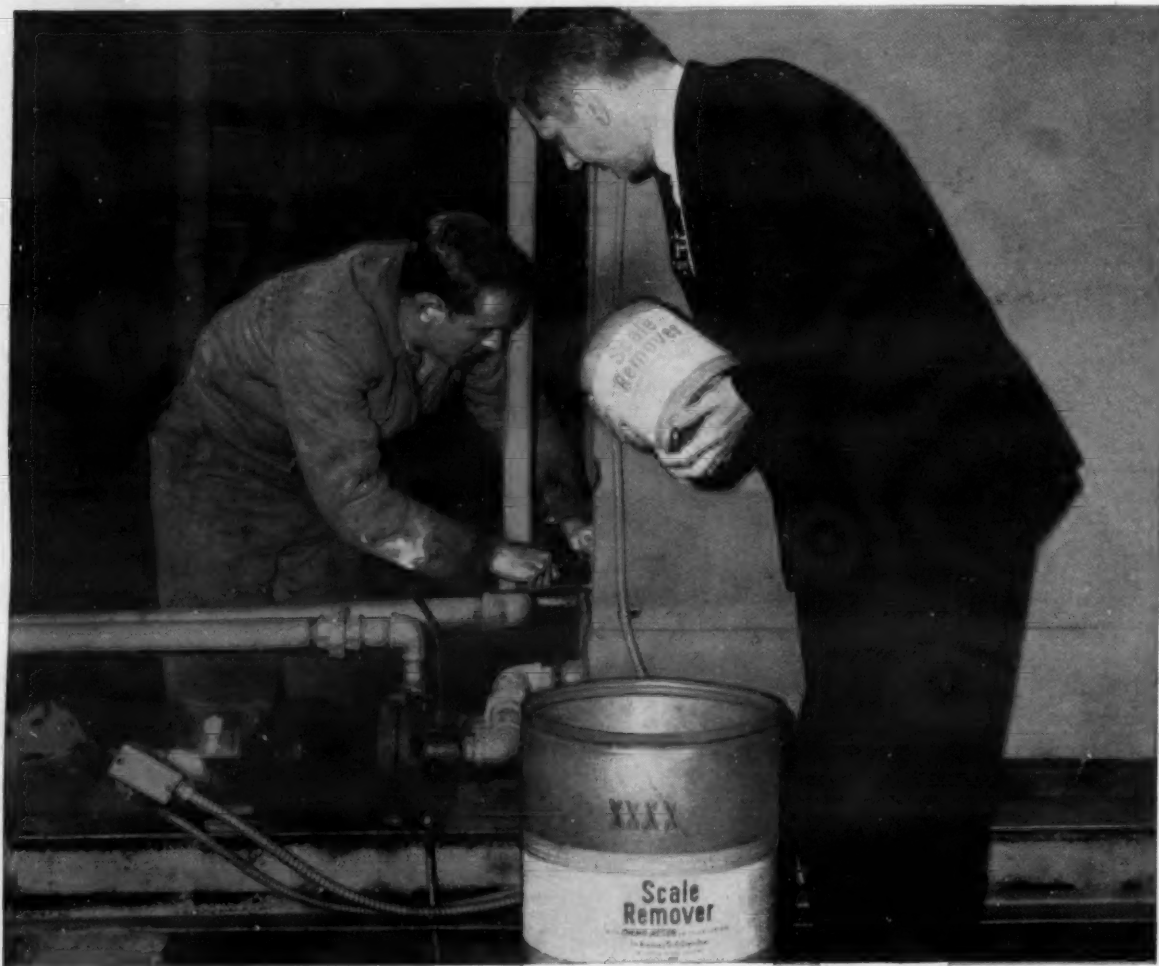
"You will see that the press release refers to the publication of the ratings in specifications and consumer literature. We understand that the immediate and first objective of ARI is to see that the B.t.u. rating of any unit shall be available to the public at the shopping point. I also understand that ARI plans to use extensive publicity, and possibly paid advertising, to encourage the public to ask for this information.

SAYS B.T.U. RATINGS SHOULD BE DISCLOSED

"The National Better Business Bureau takes the position that whenever a claim for cooling capacity is made in advertising, or implied as through a statement of 'tons' or 'horsepower,' the B.t.u. rating should also be disclosed in the ads.

"A number of advertisements in which this is being done have already come to our attention. We are communicating individually with every manufacturer whose advertising has not made such B.t.u. disclosure, recommending that this be done.

"We believe that in any standards which bureaus prepare in cooperation with local dealers or distributors of room air conditioners, you will now be justified in requiring that the B.t.u. rating be disclosed in advertising whenever a claim for cooling capacity is made, directly or by implication."



"CALGON® SCALE REMOVER is efficient and economical... I recommend its use"

James Douglas, Service Manager, A. S. Johnson Company, Washington 1, D.C.

Mr. Douglas of the A. S. Johnson Company has been using Calgon Scale Remover for the last two years in the cleaning of cooling tower systems of air conditioning equipment. Mr. Douglas says, "In all sincerity, I can say that we have found this product to be efficient and economical... and I feel justified in recommending the use of Calgon Scale Remover."

Mr. Douglas has also used Micromet® Plates for scale prevention and corrosion control. He has found that the use of Micromet Plates greatly reduces service problems. A. S. Johnson Company is one of a great many air conditioning and refrigeration service organizations who depend on Calgon's Big 3 to keep equipment efficiencies high and maintenance costs low.

Calgon Scale Remover makes it easy to clean up a system completely. Corrosion inhibitor protects system while in use. Special built-in pH color indicator shows how much of scale remover to use, and helps tell when system is clean.

Micromet Plates provide continuous treatment to inhibit further scale formation. A single

charge will last about six months, and the inexpensive feeding bag is easily installed. You merely hang the bags in the water spray.

Calgon Algacide controls algae and slime growths. It comes in pellet form for convenience in handling. Positive action kills the growth. Periodic addition keeps equipment operating efficiently.



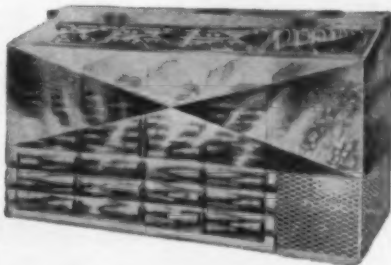
SEE YOUR REFRIGERATION WHOLESALER FOR CALGON'S BIG THREE!

CALGON COMPANY



A DIVISION OF HAGAN CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PENNSYLVANIA
DIVISIONS: CALGON COMPANY, HALL LABORATORIES

"A CASE OF COOL JUDGMENT"



**FLO-COLD
DRINKMASTER
STAINLESS STEEL
CUBER — COOLER.**

SOLD THRU DEALERS ONLY
WRITE

**United Friguator Engrs.
MENOMINEE, MICH.**

AVAILABLE IN SIZES 4 to 10 FT.

First came the Sheer Look—



Now FRIGIDAIRE leads again

Selling its 4 glamorous colors at no extra charge!

It's only natural to expect the really big news to come first from Frigidaire.

You saw it in the Sheer Look—when Frigidaire leadership broke the "design barrier"—when Frigidaire stylists introduced the most exciting "reason-to-buy" style news in years of appliance design.

NOW—Frigidaire again points the way to increased sales. FRIGIDAIRE BREAKS THE PRICE BARRIER on color appliances!

Frigidaire Appliances offered in color—Refrigerators, Ranges, Washers, Dryers, Dishwashers—are now made available in all 4 glamorous Frigidaire colors *at no extra charge.*

Included is dramatic Charcoal Gray—the smart new color news of '57—the one color that—like white—mixes with, matches and enhances any other color and *stays in style always.*

The move to color has never been clearer—never more insistent. Survey after survey proves it—women *want* color in ever-increasing numbers—and color is the big key to replacement sales.

Here's the answer to that call. A precedent-shattering announcement that brings color within the reach of every housewife—that points the way to volume color sales for Frigidaire dealers.

Be first with **FRIGIDAIRE**



Frigidaire Division of General Motors

Refrigerators • Electric Ranges • Washers and Dryers • Food Freezers • Dishwashers • Disposers • Room and Central Air Conditioners • Dehumidifiers • Water Heaters • Built-in Wall Ovens • Cooking Tops and Fold-Back Surface Units

ASHAE Announces Continued Research Expansion--

(Continued from Page 1)

Queer, director and professor of engineering research, Pennsylvania State university; and second vice president is Arthur J. Hess, president of Hess, Greiner & Pollard, Los Angeles. Treasurer is Prof. Charles H. Pesterfield, Michigan State university.

Elected to three year terms on the Council of the Society are: Richard S. Dill, chief, Heating and Air Conditioning Section, National Bureau of Standards; William G. Hole, vice president, American Air Filter of Canada, Ltd. Montreal; Peter J. Marschall, manager of engineering, Abbott Laboratories, North Chicago, Ill.; and Wesley O. Stewart, branch manager, Johnson Service Co., Los Angeles.

Research Committee Named for 3 Years

Named to serve for three years on the Society's Committee on Research are: Dominic D'Ustachio, Pittsburgh; Elbert S. Howarth, New Kensington, Pa.; Howard R. Limbacher, Kalamazoo, Mich.; Edwin F. Snyder, Minneapolis; and John I. Trimble, Columbus. The candidate nominated to serve out a one-year term is Paul H. Yeomans, Philadelphia.

Five prominent members of professional distinction, including three past presidents, recently were honored when the Council of the American Society of Heating and Air Conditioning Engineers conferred on them the grade of Fellow.

Fahnestock Receives Anderson Medal

M. K. Fahnestock, research professor of mechanical engineering and chairman of the Physical Environment Unit of the University of Illinois, received the F. Paul Anderson Medal at the annual banquet of the Society.

Pointing out that "air conditioning is a product of research," B. H. Jennings, chairman of the ASHAE committee on research, reported on research activity in the past year, and pointed to some future projects. Last year the Society expenditure on research totaled \$214,000, compared with \$205,000 in 1955.

Says More Data Needed On Comfort, Effective Temperature Charts

One of the major research projects which ASHAE undertook last year was a study to re-evaluate the Comfort and Effective Temperature Charts. With the spread of air conditioning under a wide variety of conditions not fully explored at the time the charts were produced, additional information

appears to be needed, he said.

One phase of the study will be to determine the best conditions for people doing physical work, and at the same time to study the benefits of air conditioning on work performance.

"The industry for a long time has wanted someone to say with authority 'air conditioning benefits workers and improves the work effort,' and research is needed to provide the facts that can back up such statements," Jennings pointed out.

The projects on sensations of comfort and physiological research will continue over several years, and include the following main projects:

Main Research Projects

1. Effect of humidity on comfort while subjects are (a) at rest, and (b) engaged in light activities.

2. Effect of ceiling and wall temperatures (radiation) on comfort while subjects are (a) at rest, and (b) engaged in light activities.

3. Optimum thermal environments for comfort while subjects are working at elevated rates of bodily heat output.

4. Effect of thermal environments on human performance and efficiency, such as alertness, learning, accuracy of work, fatigue and stress.

A major program is in progress at the Research Laboratory to determine the infiltration through swinging-door entrances of commercial-type buildings. Preliminary results confirm that the stack effect of tall buildings is governed almost directly by the building height and indoor-outdoor temperature difference.

By combining the findings on

draft, traffic, and door motions, it is planned to formulate rules for estimating infiltration and their resultant effect on air conditioning loads.

At the University of Illinois, infiltration of modern small residences has been investigated by the tracer-gas technique.

It has been shown that the infiltration increased somewhat with wind velocity and with indoor-outdoor temperature difference, roughly doubling with a 50° F. increase in temperature difference. The magnitude of infiltration ranged mainly between 0.2 and 0.6 air change per hour.

Other Projects Underway

Projects have been under way at Case Institute of Technology, and Kansas State college, covering prediction of flow patterns of air streams for grilles and nozzles. The Technical Advisory Committee on Air Distribution is now considering the publication of a bulletin on air distribution in rooms, and new research on high-velocity air systems.

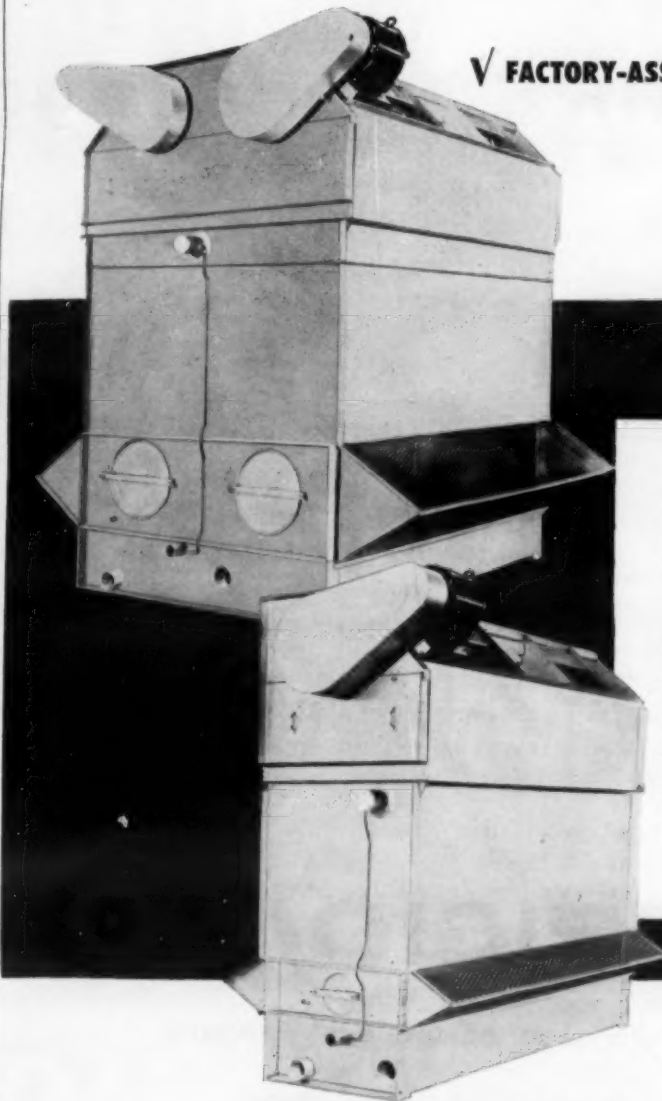
Odor control research at the laboratory has turned up what the committee report called "revolutionary findings." It states that "contrary to popular opinion," at a given concentration of odorant an increase in humidity has the definite effect of lowering the odor-perception level of cigarette smoke as well as of the pure odorant vapors tested.

Other factors remaining constant, a 10-fold increase in concentration of odorant in the air changes the perception from barely noticeable to definite, while a 100-fold increase changes the perception from noticeable to strong.

Plans have been made to continue the odor research with studies of odor adsorption and desorption by various fabrics. The adsorption and retention of

(Continued on next page)

B.A.C. offers Universal Line and Cooling Towers



✓ FACTORY-ASSEMBLED EVAPORATIVE CONDENSERS, 10 to 350 TONS

✓ FACTORY-ASSEMBLED COOLING TOWERS, 10 to 400 TONS

✓ QUIET-OPERATING CENTRIFUGAL FAN UNITS for Indoor or Outdoor Installations

DRAW-THROUGH

(COOLING TOWER ILLUSTRATED)

If you need:	Specify:
A UNIT TO FIT IN A LIMITED FLOOR SPACE	B.A.C. "DRAW-THROUGH" UNIT—A minimum of floor space is required for these units because of their advanced design and the position of the fans at the top of the unit.
AN INDOOR UNIT FOR USE WITH DUCTWORK	B.A.C. "DRAW-THROUGH" UNIT—These units have a specially-designed single inlet pan section for ductwork, as well as duct flanges on the outlet.
A UNIT TO FIT IN A LIMITED HEIGHT AREA	B.A.C. "DRAW-THROUGH" UNIT—A specially-designed double inlet pan section, that decreases unit height appreciably, is available.
GREATER CAPACITY IN LESS SPACE	B.A.C. "DRAW-THROUGH" UNIT—Because of their superior design, these units do a bigger job per square foot than ever before.

NEW B.A.C. PLANT

On December 1st, 1956, Baltimore Aircoil Company, Inc. began operations in this new, modern plant. Within two months, production of B.A.C. Evaporative Condensers and Cooling Towers was at an all-time high for the company. The plant... with its new, up-to-date manufacturing equipment and methods... has twice the production capacity of the former B.A.C. plant.



AIRO stands for

- Speedy, dependable, world-wide service.
- Air Conditioning and Refrigeration parts, equipment, supplies.
- Write for Wholesale Catalog No. 56

AIRO SUPPLY CO.
2732 N. Ashland Ave., Chicago 14, Ill.

ASHAE Research Expansion --

(Continued from preceding page) odors by fabrics in room furnishings, namely rugs, upholstery and drapes, are important factors in the control of odors.

Ceiling-Panel-Heated Room Cold Wall Effects

A study on cold wall effects in a ceiling-panel-heated room gave quantitative results on air currents flowing down an exposed inside wall. The ceiling was heated by panels extending from the cold wall one-third, two-thirds, and full room width.

In the living space variations in room-air temperatures were found to be small and room-air velocities were negligible except near the floor. Mean radiant temperatures were in general higher than the room-air temperatures.

A survey made of plastic pipe usage indicated that such pipe is under test by several organizations for use in heating concrete floor slabs. Satisfactory results are reported from installations up to four years old. Care must be taken to protect the pipe from rodents and to limit the upper water temperatures to about 160° F., it was noted.

Air Contaminant Study Continued

In collaboration with the air-filter industry, the ASHAE is continuing its sponsorship of the study of air contaminants at the University of Minnesota. An improved photometer was produced and described for evaluating air cleaners by the dust-spot method. For accurate work glass fiber and millipore filters were found to be superior

to the chemical filter papers ordinarily used.

A field survey of atmospheric dusts is in progress at seven locations over the country, the samples from these locations will be analyzed for size distribution and other features.

Combustion noise from residential boilers and warm-air furnaces heated by oil and gas burners is being investigated at Battelle Memorial Institute. A furnace or boiler which develops pulsation patterns may be so noisy as to be heard or felt throughout a building. The resonant frequency of the room and the location of the furnace in the room also make large differences in the apparent noise level.

2 Oscillation Factors In Oil-Fired Unit

For the oil-fired unit, the important factors in oscillations appear to be (1) the relative flow patterns of combustion air,

hot products of combustion, and fuel, and (2) relative positions of the combustion zone and the pressure antinode.

For the gas-fired unit, the most important variable appears to be the rate of flow of primary air. The driving mechanism for the oscillations is related to vortex shedding of the flame.

The Society's calorimeter, especially designed to measure heat transfer through windows and skylights, was overhauled and returned to working condition last September, it was reported.

To Complete Awning Study

Plans have been made to complete the study of awnings during the summer of 1957. Their effectiveness in reducing solar load through windows is known to be high, but definite values are needed for analyses of the many variable factors entering into this problem.

To Measure Solar Heat Gain In Double-Glaze Windows Next Summer

Preparations are also under way to measure the solar heat gain next summer of double glazing with between-glass shading devices, such as Venetian blinds and shade screens. Consideration is also being given to tests of reflective surfaces behind glass, and to the new forms of clear and glass-fiber-reinforced plastic fenestrations.

Problems In Harnessing Solar Energy

Of the many problems involved in harnessing solar energy, two of the more important ones are (1) the extent and availability of the energy supply, and (2) the design and performance of flat-plate collectors.

The University of Minnesota, in a research project, has installed two such collectors, 7 ft. 1 in. wide by 3 ft. 3 in. high, with refrigeration systems and instrumentation for measuring collector performance under a variety of conditions.

The experimental work under way with this equipment is expected to provide basic information over a period of years that will be applicable for a wide geographical area.

4 Noise Tests of 15-In. Centrifugal Fan

The Research Laboratory has investigated the noise output of a 15-in. centrifugal fan by four methods—the free-field test, reverberant-room test, duct-opening test, and duct-test.

The technique of measuring of noise in a duct will be useful in the study of noise regeneration and attenuation in components of duct systems, to be undertaken in 1957.

Cyclic Heat Flow Research Procedure

A systematic research procedure for dealing with problems in cyclic heat flow through building sections, as well as heat exchanges in rooms, has been amply demonstrated in several papers on thermal circuits. A research project has demonstrated the use of the electronic differential analyzer for solving the problems in air conditioning with suitable accuracy.

The thermal-circuit technique has also been applied to heat-flow data for glass-block skylights. A forthcoming paper will analyze the heat flow and permit calculation of results for a variety of glass blocks.

The TAC on Thermal Circuits is considering a possible pro-

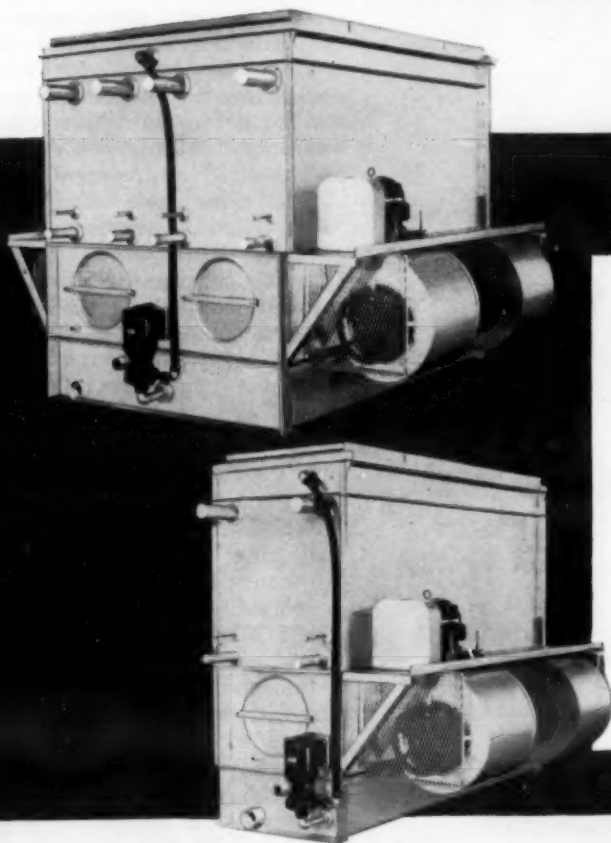
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of Evaporative Condensers for All Applications

✓ TWO STYLES—DRAW-THROUGH AND BLOW-THROUGH

✓ TWO PAN ARRANGEMENTS—Single Inlet for Ductwork . . . Double Inlet for Low Height

✓ ROTATING SECTIONS—To Give Any Desired Connection Arrangement



BLOW-THROUGH

(EVAPORATIVE CONDENSER ILLUSTRATED)

If you need:	Specify:
A UNIT WITH DRY FAN OPERATION	B.A.C. "BLOW-THROUGH" UNIT—In these units, the fans are not in the saturated discharge air, and corrosion in these vital operating parts is all but eliminated.
A UNIT WITH MAXIMUM ACCESSIBILITY	B.A.C. "BLOW-THROUGH" UNIT—Fans, bearings, drives, and all other moving parts on these units are externally located for ease of inspection and service.
AN EXCEPTIONALLY QUIET UNIT	B.A.C. "BLOW-THROUGH" UNIT—All noises are literally locked inside these units. By using a special forced-draft design, the objectionable water-drip noises have been eliminated.
A UNIT TO FIT IN A SPACE WITH LIMITED HEIGHT CLEARANCE	B.A.C. "BLOW-THROUGH" UNIT—The location of the fans on the side of these units allows them to fit in areas where height is limited.

For complete information on
B.A.C. Evaporative Condensers and Cooling Towers, write:

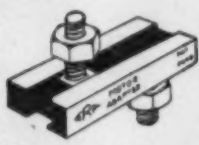
Baltimore Aircoil Company, Inc.

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MOTOR BASE ADAPTERS Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No motor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.



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ELMER R. QUEER,
first vice president.



A. J. HESS,
second vice president.



C. H. PESTERFIELD,
treasurer.

ASHAE Research Expansion--

(Concluded from preceding page) tion with the Weather Bureau and Air Force, new tabulations of winter and summer data are to be prepared for printing in The Guide.

A report on winter design data is in preparation which will summarize the probable frequency of recurrence of given temperatures at selected locations, the society further explained.

'57 Acme Line--

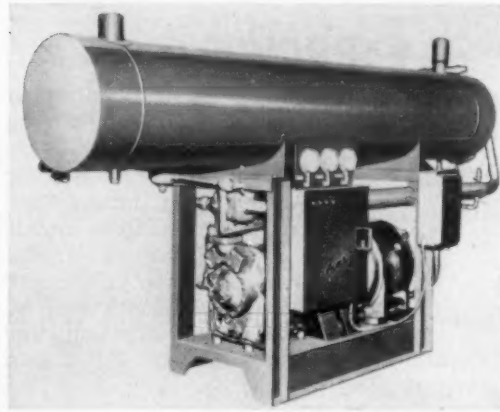
(Concluded from Page 1)

plastic sheets are held in new "file drawer" mountings which are easy to slide out and remove from the tower for inspection and cleaning.

Uses Chemically Inert Plastic Pack

Use of the chemically inert plastic pack is said to eliminate the corrosion and rust problem, and to provide weight savings up to 90%.

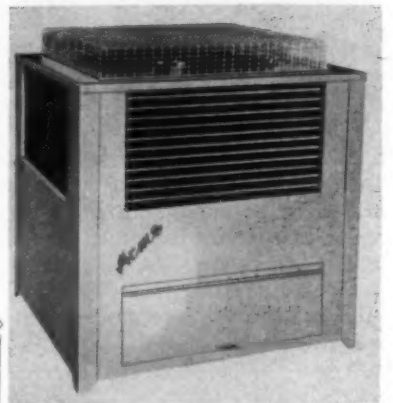
Other features of the cooling towers include hot-dip galvanizing after fabrication, external sump simplifying water treatment, easy access for inspection and servicing of spray nozzles, eliminator packs, and the coil, through Acme's big, full-width inspection panels; and quiet performance through large-capacity blowers, it was stated.



NEW series of nine Acme "Flow-Therm" packaged liquid chillers introducing close-couple drive and combined with other new features is available in capacities of 20 through 125 tons.

The two series of "Flo-Pac" packaged liquid chillers, one water cooled and one air cooled, ranging from 1 1/4 hp. through 5 hp., are designed for cooling any type of coolant and are suitable for air conditioning applications as well as industrial and process applications.

Compact in design, the Flo-



INDUSTRIAL cooling jobs and residential and commercial air conditioning is the purpose of Acme's new series of packaged liquid chillers 1 1/4 through 5-hp. "Flow-Pac" units.

Pac units all are shipped complete with refrigerant charge and factory-wired operation and protective controls. Multiple-unit installations are possible, as any of the units can be combined to supply the exact capacity need. They can be connected in parallel or in series and can be installed side-by-side, or where floor space is limited, stacked vertically.

Both the water and air-cooled series have high-low pressure cut-out controls, freeze-up protection controls, water temperature controls, capillary refrigerant feeds, bellow for water regulating valves and compressor contactors with two sets of auxiliary contactors for pump and cooling tower operation.

The nine, new direct-drive "Flow-Therm" packaged liquid chillers, with capacities ranging from 20 through 125 tons, are claimed to combine the advantages of close-coupled drive between compressor and motor with new engineering features.

Enclosed, Tamper-Proof Control Panel

An innovation is a completely enclosed, tamper-proof control panel of improved design. All controls are grouped with a protective steel cabinet which has a hinged door with an integral padlock hasp.

Reason for the door-locking innovations is to provide a means by which unauthorized personnel can be prevented from "adjusting" the unit, and thus save possible expensive equipment breakdowns.

A second innovation is a system of pilot lights which warn the operator of open limit switches—another feature which assures trouble-free operation.

All Flow-Therm chillers are tested under full load conditions before leaving the factory. An Acme certificate of performance is issued only after each unit performs satisfactorily at its rated performance through seven test procedures.

With factory-installed change-over valves, Flow-Therm liquid chillers can become efficient heat pumps.

REMCO E-Z-SEE

LIQUID INDICATORS

ARE STANDARD FOR

ORIGINAL EQUIPMENT

Remco hermetically sealed E-Z-SEE Liquid Indicators are used by more than 60 manufacturers of refrigeration and air conditioning equipment. Their design permits extra flexibility on the assembly line.

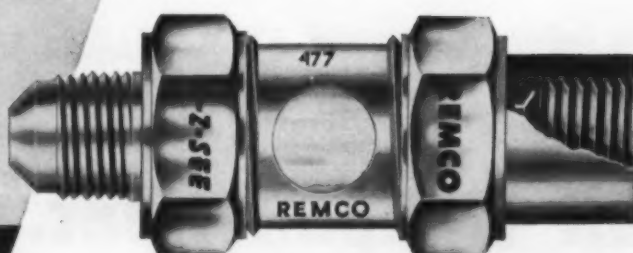
They are available in brass or cadmium plated steel with flare or sweat connections. Sweat connections are swivel so that they can be removed from the body assembly for soft or silver soldering, thus eliminating any danger of damage from heat.

All steel indicators are approved by Underwriters Laboratories for Freon-12 and Freon-22.

Write for low net prices and for Bulletin R-11 which gives complete engineering details.

9/16 STANDARD

REMCO INC.
ZELIENOPLE, PA.



AVAILABLE TO THE TRADE THRU
WHOLESALEERS EVERYWHERE

Schick Heads New Vornado Auto Sales Unit Div.

WICHITA, Kan. — Establishment of a new Vornado sales division headed by C. E. Schick and devoted exclusively to sales and promotion of automobile air conditioners has been announced by Albert S. Bross, vice president in charge of sales for The O. A. Sutton Corp.

The move increases the firm's sales organization to three separate divisions — one covering room air conditioners and air circulators and headed by Fred Kathis, the central air conditioning division headed by Charles Fisher, and the new automotive air conditioning division.

Vornado introduced its packaged automobile air conditioner this year. Schick said that, "In order to properly support the sale of this new automobile unit, Vornado has established a separate headquarters staff and a separate field sales and service organization. This action has been taken as part of our continuing policy to adequately support our distributors and dealers on each Vornado product.

"Sales for the unit have far exceeded our expectations and we have already found it necessary to increase production facilities," according to Schick, sales manager for the automotive air conditioner division.

Schick said Vornado's sales program will be backed with a complete national and local advertising campaign designed to sell automobile air conditioning on a mass market basis.

To create mass consumer demand Vornado has announced a national coverage program utilizing billboards in principal cities across the nation and consumer magazines such as *Life* and *Newsweek*. This will be backed at the local dealer level with a program of newspaper, radio, and television advertising plus a dealer identification and display program, according to Schick.

Frigidaire Room Unit Service Schools Set For Detroit Mar. 12-22

DETROIT — Frigidaire Sales Corp. will conduct a series of one-day service schools on Frigidaire window air conditioners at Frigidaire Training Center here March 12 through 15 and March 18 through 22, R. A. Wilkins, service manager, announced.

Classes will include actual work by students along with practical demonstrations and chart presentation, Wilkins said. School runs from 8.30 a.m. to 4:30 p.m. each day scheduled.

Subjects covered will include construction and operation, installation factors, service diagnosis, electrical components, and refrigeration component replacement.

Cooled Apartments

CHICAGO — A 40-story, \$6,000,000, air conditioned apartment hotel is being constructed downtown here at 63-73 E. Wacker.

Dover Opens East Coast Assembly Plant for Packaged Cooling Towers

INDEPENDENCE, Mo. — The opening of a new east coast assembly plant has been announced by the Dover Mfg. Co. here.

The new plant is located in Greensboro, N. C. and will have warehousing and shipping facilities in addition to an assembly line.

The firm, which makes a complete line of packaged cooling towers (2 to 100-ton capacities), will now have two as-

sembly plants in addition to its Independence manufacturing facilities: the new east coast plant and the Merced, Calif. plant.

Dover towers come in vertical induced draft, horizontal induced draft, and natural draft types, the manufacturer announced.

All Dover towers are hot-dip galvanized, after fabrication, the company further noted.

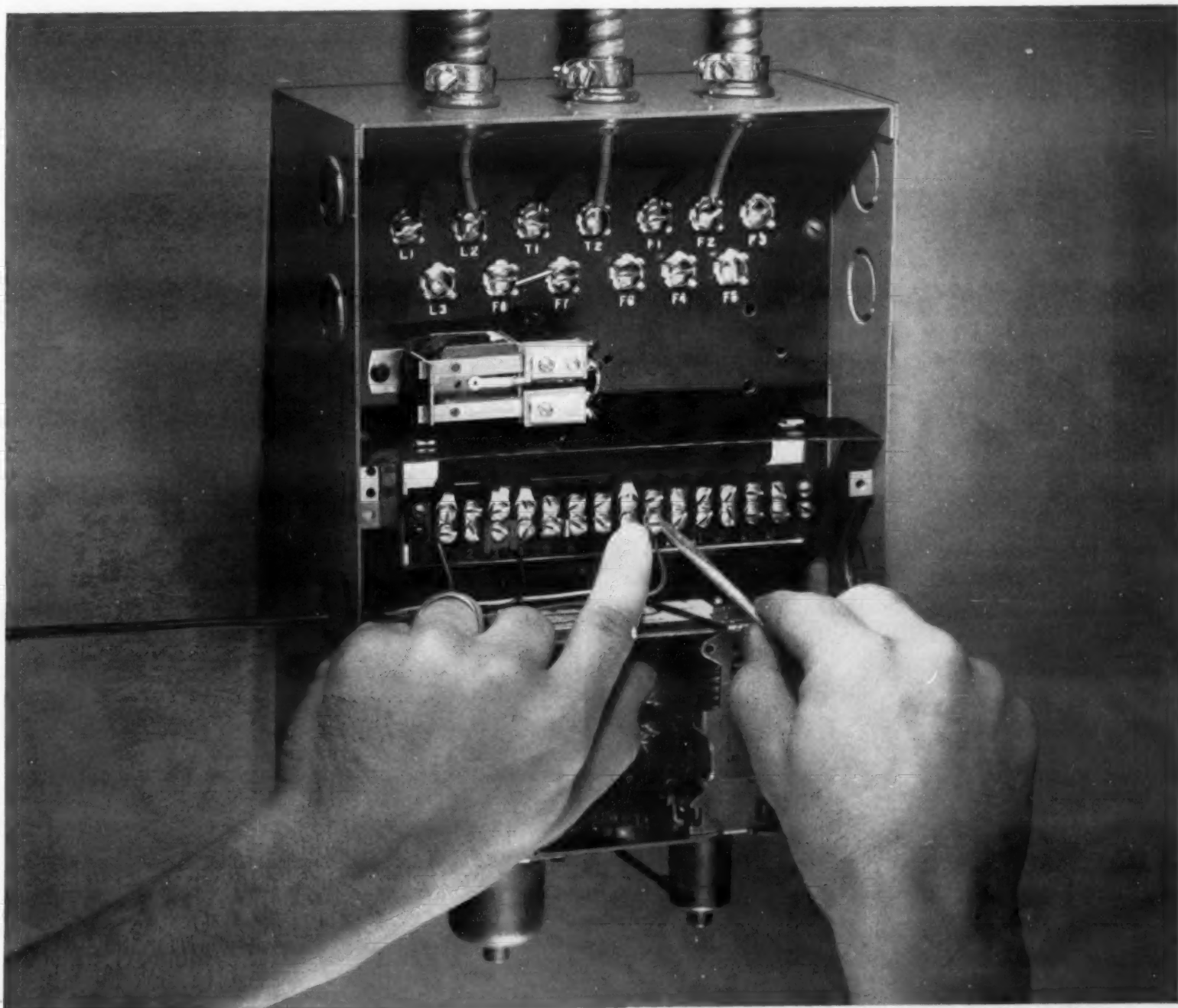
2-Day Frick Sales Conference Coincided with Heating and Air Conditioning Exposition

WAYNESBORO, Pa. — Frick Co. held a two-day sales conference for its distributors while the International Heating and Air Conditioning Exposition was in progress in Chicago.

Nearly 85 representatives of the Frick "Factors" and of the company itself gathered at the Hotel Sherman to discuss equipment, methods, and policies. Talks were given by the chief engineer and the heads of other departments, and there were

discussions by various distributors.

The distributors on hand for the meeting came from all parts of the U.S. and Canada, and Uruguay. Presiding over the meeting was William H. Aubrey, vice president and assistant general manager of the Frick Co., with the assistance of C. C. Smith, assistant sales manager. The group also viewed Frick equipment on exhibit at the Exposition.



ONE-UNIT AIR CONDITIONING CONTROL SIMPLIFIES WIRING

In the new Penn Series 753 air conditioning control center, all functions are centralized in one compact unit. There are 14 low voltage terminals for both heating and cooling . . . so all wiring is simplified by centering it into one unit. There is no need for additional connection or junction boxes. Also reducing wiring problems are the built-in high and low pressure cut-out controls.

And, there are advantages for the manufacturer, too. For example, the Series 753 has detachable bellows which permit pre-assembly of pressure elements into hermetic systems. To be sure you're getting the best, look for the Penn Series 753 on the self-contained package air conditioning units you buy and install for either residential or commercial applications.

PENN CONTROLS, INC.

Goshen, Indiana

Automatic Controls For Heating, Refrigeration, Air Conditioning,
Gas Appliances, Pumps, Air Compressors, Engines

See how easy it is to make wiring connections in the Series 753 . . . both line and low voltage terminals are easily accessible in this "clean-cut" panel assembly.



Exterior view of Series 753 residential air conditioning control center.

Offers 6 Reasons Why

Many Canadian Hotels, Motels Use Central Systems, Individual Room Units

LA CROSSE, Wis.—Capital investments in hotel and motel construction in Canada has followed a course parallel to that established in this country, The Trane Co. reports.

While the total amount spent on new buildings and modernization does not begin to equal total similar expenditures in the United States, all-time highs have been established.

Since 1947, it is estimated that about \$100 million has been invested in Canadian hotels and motels. And the most significant part of this improvement program is the growing use of air conditioning, the company said.

"The most popular air conditioning systems being installed

in Canadian hotels and motels are central systems with individual room units providing selective temperature control by the occupant," Trane stated.

Referring to use of the individual fan-coil room unit in air conditioning older hotels, the company said Canadian hotels utilizing this type of air handling system "report it is proving ideal because:

"1. The system has long life expectancy—usually over 25 years.

"2. Maintenance, installation, and operating costs are low.

"3. Noise level and noise transfer are low.

"4. Units are positioned anywhere in the room, assisting

with interior decorating.

"5. Complete, year-round air conditioning is achieved from one unit.

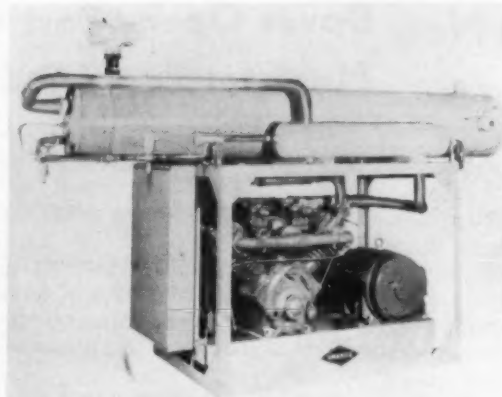
"6. Progressive installation, zone by zone and/or floor by floor, is feasible."

Trane has been having great success in air conditioning existing hotels, it was reported. Some of the outstanding installations include the Sheraton Hotel chain, the King Edward hotel in Toronto, and the William Pitt hotel.

The fan-coil "UniTrane" air handling unit and the "Cold Generator" water chilling plant are on the job in these, and other, Canadian hotels.

McHugh Is Carrier Director

SYRACUSE, N. Y.—Keith S. McHugh, president of the New York Telephone Co., was elected to the board of directors of Carrier Corp. at the annual meeting of stockholders.



MODEL CWG packaged chiller is designed by Unarco Air Conditioning Products Div., National-U. S. Radiator Corp. for all types of commercial and industrial air conditioning installations.

Water Chiller Uses Existing Piping In Fluid Heat Buildings To Give Summer Conditioning

JOHNSTOWN, Pa.—A new model water chiller developed here by Unarco Air Conditioning Products Div. of National-U. S. Radiator Corp. makes summer air conditioning available in buildings heated with steam or hot water systems.

Major advantage claimed for this unit is that summer cooling comfort can be piped through a building by means of existing piping.

Models CWG and CWG-E are packaged units, designed for all types of commercial and industrial air conditioning installations, the company said.

Shipped as a complete unit, requiring a minimum of connections to put it into operation, model CWG is equipped with across-the-line starters, insulated heat exchanger, and chiller, and freeze-up prevention thermostat.

Model CWG-E, offering central water supply for individual fan-coil air conditioners, can cover a broad span of out-going water temperatures, temperature drops, and tonnage ranges, it was explained. The evaporative condenser can be installed as a component part of the unit or separately.

Both units come in the full range of sizes from 7½ to 75 hp.

Carrier Distributor Moves Quarters In N. J.

CAMDEN, N. J.—More than 500 leading citizens and press representatives recently participated in an "open house," officially opening enlarged modern quarters of A. A. Duckett, Inc., Carrier Corp. distributor serving south Jersey.

Albert A. Duckett, president, said the move was necessary to handle business growth and increasing south Jersey consumer demand for air conditioning, heating, and refrigeration.

Some of the major air conditioning installations completed this year, such as the *Courier Post* newspaper plant, Delaware Township; 14 floors of the Wilson building; ballrooms and public spaces, Walt Whitman hotel; industrial cooling water system, B. F. Goodrich, Riverside; Saunders Publishing Co., Delaware Township; New Jersey Bell Telephone Co., Mt. Holly and Haddonfield; Gibbstown School, and Mannington Mills Office building, Salem, are indications of this growth.

Quarters at Crescent Blvd. and Haddon Ave. are provided for engineering, construction, service, warehousing, accounting, parts depot, and offices.

More than 10,000 sq. ft. will be devoted exclusively to maintaining facilities to provide year-round comfort in stores, homes, and factories. The mechanical contracting department is prepared to install systems for schools, industry and the government, requiring specialized engineering.



RESULT: Better Finish at Lower Cost

In addition to the long recognized advantages of Eaton Permanent Mold Gray Iron Castings, the use of shell coring gives an even greater uniformity of structure and an improvement in internal surface finish. This results in machining economy and fewer rejections, which, in the end, mean lower cost of finished parts.

If you have applications where more than ordinary quality is required, Eaton Permanent Mold Gray Iron Castings offer many advantages. Whatever your requirements, our engineers will be happy to work with you.

Send for Illustrated Descriptive Literature

Consider these Important Advantages

- ★ Intricately cored sections
- ★ Uniformity of castings
- ★ Higher machining feeds and speeds
- ★ Substantially increased tool life
- ★ Dense, non-porous, homogeneous structure
- ★ Freedom from inclusions
- ★ Excellent tensile strength
- ★ Ability to take high surface finishes
- ★ Freedom from leakage under pressure



EATON

FOUNDRY DIVISION
MANUFACTURING COMPANY
VASSAR, MICHIGAN

Restyled Montgomery-Ward Line Features Built-In Look, Safety Latch Refrigerator

CHICAGO — Completely restyled inside and out for the first time in recent years, new lines of refrigerators, freezers, air conditioners, and ranges are being unveiled by Montgomery Ward & Co.

The lines feature "straight line design with built-in look," according to R. A. Leonard, appliance division manager.

Top model in the line of six refrigerators is a 14-cu. ft., two-door refrigerator and freezer combination. Freezer section is at bottom. Other features include automatic defrost, inner-door storage for up to 3 gals. of milk, book shelf-type rack for frozen foods, roll-out shelves, and a new automatic ice ejector.

The freezer line is headed by a 15-cu. ft. upright model. In addition, there are seven other

upright and chest styles ranging in size from 10 to 20 cu. ft.

A new feature of the refrigerator and freezer lines is a door latch which permits unlocking from inside. Slightest interior pressure exerted against the door is said to be sufficient to make it open, yet the mechanism provides a "perfect" seal.

There are 10 air conditioner models, varying from ¾-hp. units that can be plugged into any electric outlet, to 2-hp. units.

The refrigerators, freezers, and air conditioners carry the brand name "Tru-Cold."

A 36-in. completely automatic gas range which incorporates two ovens, two broilers, and a rotisserie leads the group of 13 gas and electric ranges in the



STRAIGHT-LINE design keynotes the new Montgomery Ward line of Tru-Cold refrigerators.

new "Windsor" line of Ward. Retail store and appliance managers are seeing the new

lines at a series of 14 meetings which began Feb. 12 in Baltimore and end March 22 in Los Angeles. The lines were scheduled to be in Ward's retail stores around March 1.

Hotpoint Advertising Booklet Helps Dealers Prepare Newspaper Layouts

CHICAGO — Thousands of conditioner ads can be prepared, ads, no two alike, complete for 10 cents! That's the prospect for Hotpoint dealers because of a new retail advertising book, planned and prepared by the refrigeration department, Hotpoint Co.

According to Dave Grisby, merchandising manager, the 86-page, 16½-in. by 13-in. book, is designed to help dealers meet their own local marketing and merchandising conditions necessary to selling refrigerators, food freezers, and air conditioners.

Because of the variety of sizes, product illustrations, logotypes, general artwork, feature illustrations, more than 5,000 different refrigerator ads, 900 food freezer ads, and 3,500 air

conditioner ads can be prepared, it was pointed out.

Supplements to the book will be added on a quarterly basis with special insertions being issued periodically. In the planning stage at the present time, according to Grigsby, is a special radio and television advertising supplement, which will be issued shortly.

In addition to the variety of ads, special insertions, and quarterly supplements, there is an index, a special newspaper layout sheet for both regular newspapers and tabloids, a suggested ad using all the art elements possible, plus suggested banner headlines.

All artwork, ads, and illustrations are available in mat form to dealers at nominal cost.

Trouble Comes Double For Harry Price

NORFOLK, Va. — Trouble came double recently for Harry Price, Jr., president of Price's, Inc., appliance retailer here.

On Feb. 12, Price was admitted to Leigh Memorial hospital with a kidney ailment. Six days later, a fire gutted two floors of his firm's main offices at 133 W. Charlotte St., it was reported.

Appliances and office equipment were lost in the blaze which apparently was caused by a short circuit. The fire appeared to have started in a second story side wall, according to fire department officials.

Before the blaze was finally put out early in the evening, part of the third floor had collapsed and the first floor was flooded. Earlier, firemen used a ladder to rescue an electrical repairman, employed by Price's, who was trapped in the burning building.

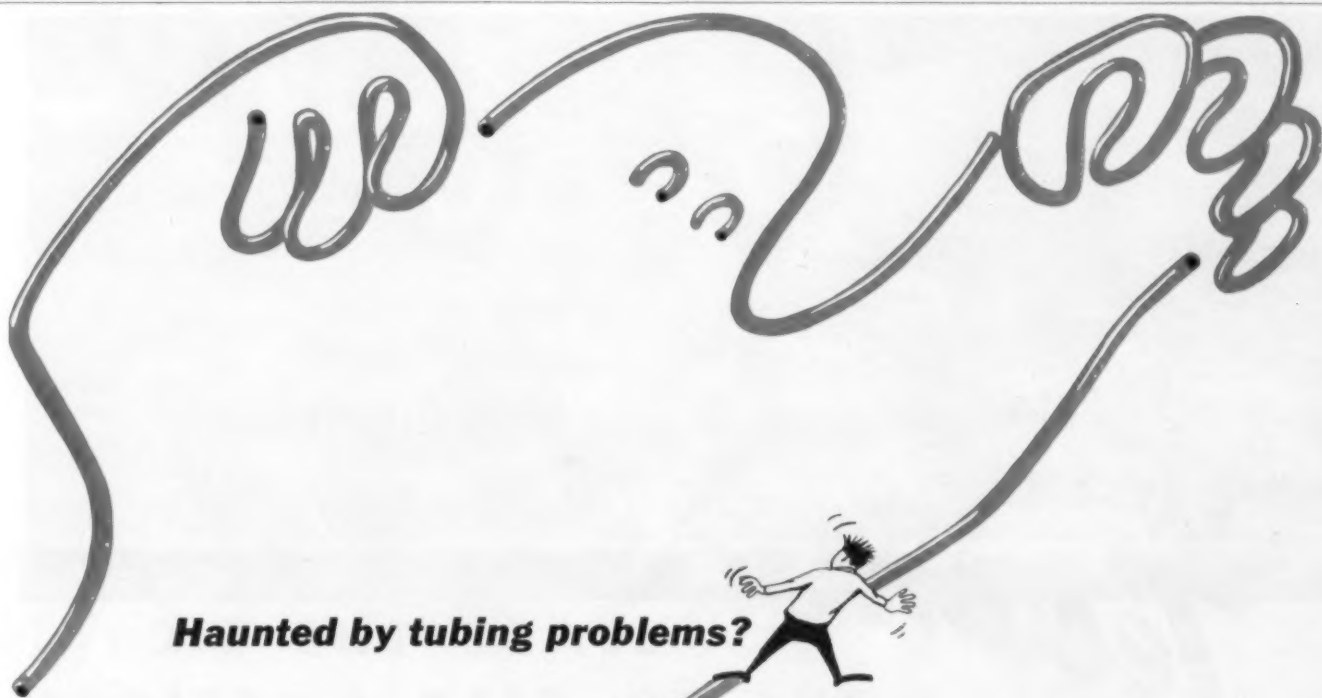
Just out of the hospital, Price spent the night totaling up the damage.

Major Excise Tax Cuts Seen Doomed by House Committee Action

WASHINGTON, D. C.—A recent decision of the House Ways and Means Committee is expected by some members to have the effect of ruling out action this year on major excise tax cuts, it was reported here recently.

The committee decided against any major excise tax rate changes in a pending bill on technical provisions of the excise laws. The action was taken as the committee started going over the recommendations of a subcommittee which has been studying excise problems, it was explained.

After two years' study, the subcommittee has drawn up recommendations for a great many technical excise changes, some minor rate changes, and new exemptions. The full committee plans to consider the subcommittee recommendations and embody the items its approves in a bill to be reported to the House, it was disclosed.



Haunted by tubing problems?



RANDOM-LENGTH COILS OF GM STEEL TUBING ELIMINATE JOINTS AND SHORT-END WASTE!

Save from start to finish by always specifying GM Steel Tubing! It's tailored to your exact requirements . . . available in straight lengths or random coils up to 2000 feet. No costly soldered joints . . . no short-end waste . . . substantial time and material savings.

Furnace-annealed GM Steel Tubing facilitates fabrication, too. Intricate bends or hand forming operations are speedier and simpler. See Sweet's Product Design File (1a/Ro). Or for expert advice on any tubing problem, get in touch with your Rochester Products Sales Engineer or write us direct.

GM STEEL TUBING BY **ROCHESTER PRODUCTS**

ROCHESTER PRODUCTS DIVISION OF GENERAL MOTORS, ROCHESTER, NEW YORK

What Was New

New products galore were on display at the 13th International Heating & Air Conditioning Exposition in Chicago. On this and other pages throughout this issue the NEWS presents picture coverage of many of highlights of the show. Additional pictures will be published in future issues. For more details on any of these products please use "Information Center" blank on page 25. Refer to product by Key Number.



—KEY NO. G-3231—
DOUBLE INLET wheels with new center disc construction marked the "Blastaire" lines of blowers made by Revcor, with which Pat Lee poses here. Literally hundreds of new components for air conditioning systems were on exhibition at the show in Chicago.



—KEY NO. G-3232—
MATCHING vertical air flow residential air conditioning cooling coil assemblies and remote air-cooled condensing units in 2, 3, and 5-ton sizes constituted a new line shown by McQuay, Inc. Pat Lee poses with some members of the McQuay sales force around the model CU-3, a 3-ton model.



—KEY NO. G-3233—
BRAND NEW product shown by Perfection Industries Div. of Hupp Corp. was this 1 3/4-hp. condensing unit for remote installation. It also comes in 3 and 5-hp. sizes. Jack Behler, Behler-Young Co., Grand Rapids, Mich., gets the story from W. H. Smith, assistant manager of heating and cooling sales for Perfection.



Tecumseh

LEADS THE BIG MOVE TO KEEP AMERICAN MOTORISTS COOL

The public demand for air conditioning comfort is swiftly being projected into the automotive field. Tecumseh, the world's largest manufacturer of air conditioning compressors, has taken the initiative in this huge pre-sold market.

Working directly with the automotive industry, Tecumseh has developed the HH compressor specifically for automotive use. This compressor is compact — rugged — lightweight — and low cost. In addition, the 1957 model has larger suction mufflers and other improvements which reduce noise level considerably. About 50% of the air conditioned cars on the road today are proving its efficient performance.

But it doesn't stop here! Right now, Tecumseh is working on the future air conditioning requirements of the American motorist. Advance design, engineering and mass production are already achieving the goal of equipping American automobiles with the finest air conditioning compressor, at the lowest cost.



model HH
AUTOMOTIVE AIR
CONDITIONING COMPRESSOR

* OVER 29,000,000 TECUMSEH COMPRESSORS
IN USE TODAY



The World's Largest Producer of Air
Conditioning and Refrigeration Compressors

TECUMSEH PRODUCTS CO.

EXPORT DEPT.—P. O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan

Marion, Ohio
Tecumseh, Michigan

For more information about products advertised on this page use Information Center, page 25.

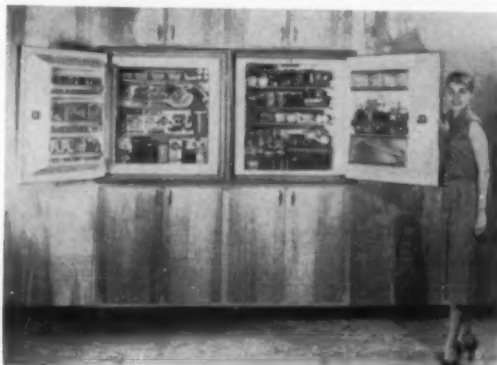


—KEY NO. G-3234—
"LINE AIR" CONTINUOUS RECTANGLES AND SQUARES are featured by Universal Diffuser Corp. Model Chris Michaels points out one of the company's rectangular type diffusers.



—KEY NO. G-3235—
NEW PRODUCT in the line of Curtis Mfg. Co.'s Refrigeration Div. is this water-to-air heat pump which provides 5 tons of cooling and 78,000 B.t.u. heating based on 75° water. Inspecting unit are Donald Rosenbloom (l.), New-Air Air Conditioning Engineers, Chicago, and Frank Hanley, manager of Curtis' Chicago office.

Trying to find
the right man for a
hard-to-fill vacancy—
the NEWS' Classified
Ads are read by your
man.
Place your ad today!



GOLD decor interior has light, "Koilomatic" self-defrosting, deluxe pullout crisper and shelves in Sub-Zero "Built-In" models 8 BIR refrigerator. "Glamordor" has large storage facilities. Next to it is 8 BIF freezer.

Sub-Zero Refrigeration Line Said To Fit 'Every Conceivable' Kitchen Setup

MADISON, Wis.—A new line of built-in refrigeration equipment consisting of seven models for large and small kitchens has been introduced by Sub-Zero Freezer Co., Inc. here.

There are two "over and under type" models—124 BIRF and 18 BIRF. The former has a refrigerator capacity of 10.8 cu. ft. and a freezer capacity of 3.5 cu. ft. Refrigerator capacity of model 18 BIRF is 8.6 cu. ft., and freezer capacity 9 cu. ft. Both models are single cabinets and self contained.

Three other models are 30 BIRF, a "side by side type" with refrigerator capacity of 15.8 cu. ft. and freezer capacity of 14 cu. ft.; model 15 BIR, refrigerator only—15.8 cu. ft.; and model 15 BIF, freezer only—14 cu. ft.

The company stressed that "there are no special cabinets to buy to house any of the above models" and that there is little installation expense. The cabinets are complete packages, Sub-Zero said, adding: "Just place them in 'roughed-in' wall opening and merely plug into 110-volt, 60-cycle a.c. outlet."

Both the refrigerator and freezer sections in combination models 124 BIRF, 18 BIRF, and 30 BIRF are equipped with separate condensing units having fan type condensers "which more quickly move the air and dissipate the heat of the refrigeration cycle."

The two other models—8 BIR and 8 BIF—are "cabinet or stack-on types." The former is an 8.5-cu. ft. refrigerator and the latter a 7.2-cu. ft. freezer.

"These models can be used as 'stack-ons' or can be built into existing cabinets in either an 'over and under' or 'side by side' arrangement, or can be used separately as desired," it was pointed out.

The company said its new line fits "every conceivable kitchen arrangement and refrigeration requirement."

Line features include interiors in color with "gold" shelves and storage shelves in the new "Glamordor." Units are available in coral pink, pastel yellow, jet black, mist blue, sparkling white, coppertone, and stainless steel; remote installations; and left or right swing doors.

Sub-Zero said 3½-in. thick "Laminar Fiberglas" insulation is used throughout cabinets. There is a separate adjustable temperature control for each section in all models. Condensing units are equipped with service valves for ease of servicing from the front of the cabinet.

Refrigerator sections are equipped with adjustable "pull out" shelves, interior light,

large deluxe "pull out" vegetable crispers, and "Koilomatic" self-defrosting.

Freezer section coils are the "floating type."

"The decor and styling embodied in the construction of the doors enables users to change front appearance at will

with very little expense involved," it was stated. "The color scheme can be changed to match any new decorations installed in the kitchen at any time. Change the front panels of the cabinets to wood, plastic, wallpaper, Formica, cloth, metal, etc., as desired."

Food Plan Distributor Opens Dallas Office

DALLAS—Crown Foods Corp. announces the opening of its new headquarters offices at 12835 Preston Rd. here.

Crown Foods was incorporated in December, 1956 by Krantz Keller and W. B. Keatinge for the purpose of distributing food freezers and food on a national basis through a dealer organization using direct-to-consumer methods of merchandising.

Both men were formerly with Rich Plan Corp. here.

A COLORFUL billboard, featuring an actual door from an Amana "Star-Mor" freezer, sells the Amana Food-Freezer plan for the Village Appliance Store in East Rochester, N. Y. Door attracts passerby's eyes to the message: "More than just a freezer . . . more than just a service . . . this is modern living at its best."

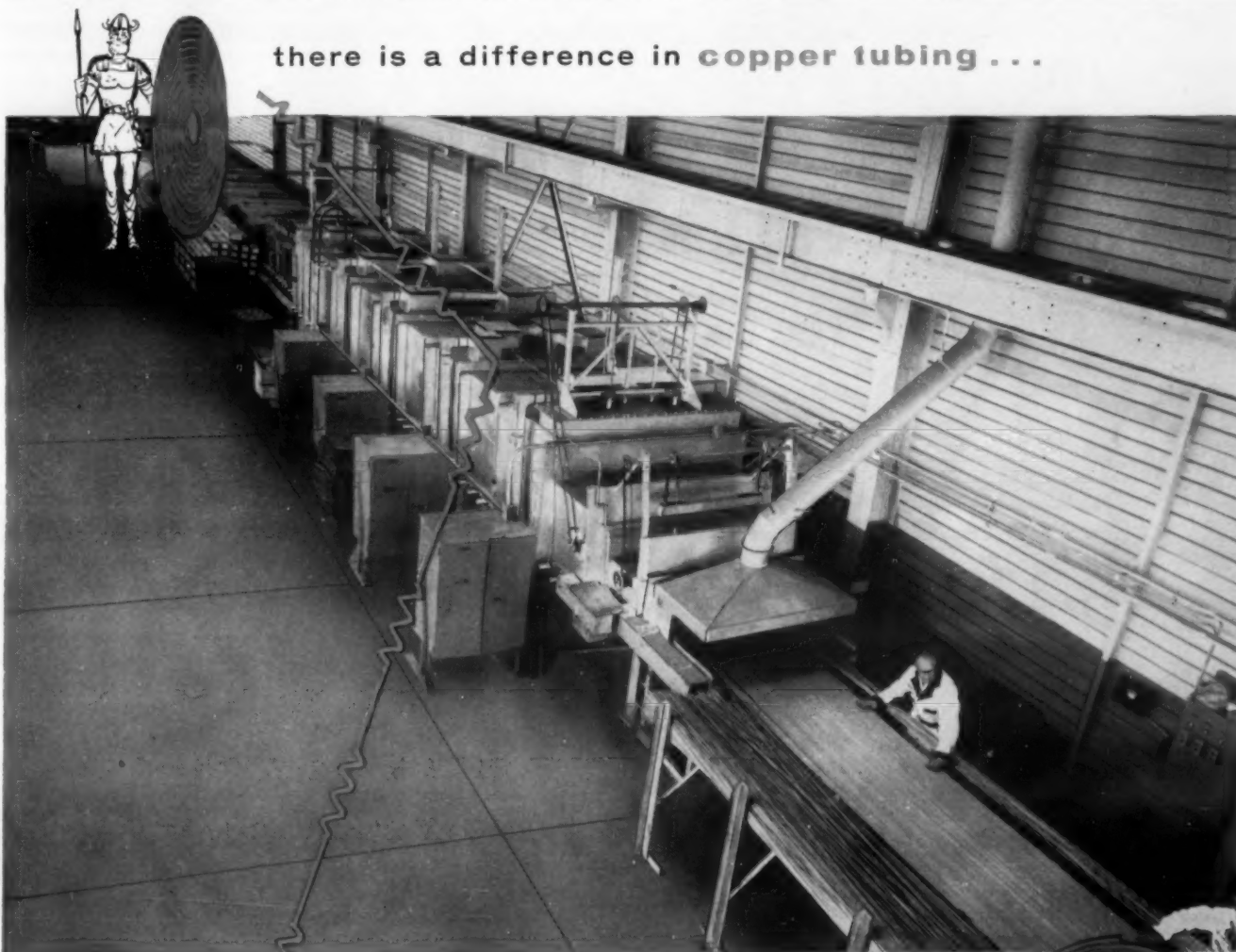


Ben-Hur Modifies 4-Cu. Ft. Freezer for Godfrey's Safari; Now He Can Have 'Plenty' of Ice Cubes

NEW YORK CITY—Ben-Hur Mfg. Co. was modifying its U-564, 4-cu. ft. freezer to include four fast-freezing shelves, two more than usual and has added insulation to withstand temperatures up to 120° plus high humidity so Arthur Godfrey will not have to worry about a short-

age of ice cubes on his five-week African safari, it was reported.

To be used solely for making ice cubes, the unit will hold about 24 cube trays—that's 288 ice cubes, according to Paul Miller, secretary-treasurer of Midland Distributors, Inc., local Ben-Hur distributor.



the difference in **VIKING** is

CONTROLLED ANNEALING FOR GREATER FLEXIBILITY

Utilizing the industry's largest and most modern electric roller hearths, VIKING copper tube undergoes a carefully controlled and highly exacting annealing process. This extreme care in heat treating produces a more readily flexible tubing that can be coiled, formed, flared and expanded quickly without danger of fracturing or splitting. VIKING's greater flexibility means trouble-free fabrication with important savings in time and labor.

Rigid control of the annealing process is aided by exothermic type generators. Through their use, the atmosphere of the furnaces is constantly maintained at a positive pressure . . . preventing infiltration of outside air and assuring that

the inside of the tubing will be properly purged. The result is a constant production of uniformly annealed, clean, non-discolored tubing.

It is because of VIKING's "difference" in quality, uniformity and dependability of service that VIKING copper tubing is today the first choice of the nation's leading manufacturers of air conditioning units and coils.

VIKING copper tubing continues to be the result of the combined efforts of skilled craftsmen seeking always to create a tubing that will do the job better, faster and at lowest cost.



VIKING

COPPER TUBE CO.

CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBING

EXTRA STRENGTH

The proper kind of strength and ductility is vital in tubing used for refrigeration and air conditioning purposes. VIKING copper tubing possesses these properties to a far greater degree than other types of tubing. Its temper assures flawless fabrication.

EXTRA FLEXIBILITY

Viking Copper Tube is soft and pliable, yet exceedingly rugged. It saves time and labor because it can be coiled, formed, flared and expanded quickly without danger of fracturing or splitting.

ELECTRONIC QUALITY CONTROL

An electronic "Brain" detects the minutest flaw or imperfection in the walls of VIKING tubing . . . automatically discarding defective tubing. Trouble-free fabrication is virtually guaranteed — operational failures almost completely eliminated.

Frozen Entrees Help Schools Serve Hot Meals Without Complete Cafeterias

CHICAGO—Food freezers are helping the public school system here pioneer a method of providing hot lunches for elementary schools that don't have kitchens.

"Frozen foil wrapped" service of the Board of Education's Bureau of Lunchrooms prepares and cooks several thousand entrees for meals in the large kitchens of Crane High school.

Each entree is wrapped completely in aluminum foil and quick-frozen. At convenient intervals, a week's supply of frozen foil packages is delivered to each elementary school that receives the service.

Each school keeps its packages in freezers, along with other foods it needs to make up "Type A" meals—a plate lunch with nutrition enough to supply

a third to a half of a normal child's needs a day.

Frozen foil packages are popped into large kettles of water at lunchtime, brought to a rolling boil, and 5-6 minutes later the meals are ready to serve. Salads, fruit, and vegetables are already set out on counters.

Attendants cut open the foil and put the package on a paper plate along with the rest of the child's lunch. The wrapping is said to help keep the entree warm as the child eats.

It costs \$25,000 to install a grade school cafeteria, according to latest estimates here. This frozen food system provides lunch service with a \$6,000 to \$7,000 installation cost.

The service was started three years ago experimentally.

April 15 Is Date Set For North Carolina Contractor Exams

RALEIGH, N. C.—April 15 is the date set by the North Carolina State Board of Refrigeration Examiners for an examination for persons who wish to qualify for a refrigeration contractor's license.

This will be a regular examination as prescribed in the state's general statutes and is designed to ascertain the technical and practical knowledge of the appliances concerning the analysis of plans and specifications, estimating cost, and fundamentals of installation and design of refrigeration units.

An examination application form may be secured from the board's office, P.O. Box 10553, here. K. P. Hanson, chairman, announced that all applications must be received by the board on or before April 1.

NARGUS '57 Forecast

Modernizing, Re-Equipping Well-Located Stores, Building New Ones To Hit Peak

CHICAGO—Modernizing and re-equipping old stores in good locations along with constructing stores in new locations will set an all-time record in 1957 for members of the National Association of Retail Grocers, according to the February issue of *NARGUS Bulletin*, the association's official publication.

In its special "Modern Stores Annual Report and Survey Issue," the *Bulletin* presents its 1957 forecast of new store building and modernization plans of its members. The publication points out that "successful independent operators with long standing good connections are able to get some financing now, despite the current tight money policy."

The forecast states, "Tight or loose money, 1957 will see NARGUS members constructing more new stores and modernizing and expanding more of their present stores than ever before."

According to the eighth annual NARGUS poll on store building and equipment purchasing intentions, NARGUS members will build or move into 10,886 new stores in 1957 and two-thirds of them will construct their own buildings at an average cost of \$101,000, for a total expenditure of \$840,300,000.

\$67,000 In Equipment Seen In New Stores

To equip each new store, NARGUS members anticipate spending \$67,000 per store with an added \$51,800 for stock. "Their approximate quarter-of-a-million dollar expenditure per new store means they are planning larger stores," the article declares.

In addition to contemplated new stores, retailers intend to modernize 16,000 present properties, averaging \$22,132 per store. NARGUS members will buy new equipment, averaging \$19,000 per store, for present stores, it is expected.

9,600 Intend To Install Cooling

The poll revealed that 23,680 stores plan to purchase new frozen food equipment and 9,600 intend to have air conditioning equipment installed.

"Soaring labor costs are be-

hind the new demand for automation and the urge for room to merchandise during peak periods," the *Bulletin* states. "For example, 3,840 members indicated intentions to purchase wrapping machines for meat and produce, while more than 4,000 will install vending machines to dispense coffee, colas, and cigarettes."

Specific information about the quantities of other equipment, fixtures, and store machinery which retailers intend to purchase in 1957 is available from NARGUS headquarters, 360 N. Michigan Ave., Chicago 1, Ill.

In its store modernization section, the February issue of the *Bulletin* presents engineers' designs for remodeled store fronts and floor plans, showing how "Old Stores Can Look Young Again."

'Store of Tomorrow'

The section also includes a master layout of a king-size "store of tomorrow," the result of six years of planning, testing, and re-arranging. The combination of major food and non-food operations on a self-service basis, with multiple concessions, including sporting goods, appliances, florist, laundry, and cleaners, offers basic ideas that can be applied to smaller stores, it is stated.

Outdoor "kiddie corner" or free movies on the lot are suggested ideas for occupying the attention of the children (and father) while mother shops unhurriedly.

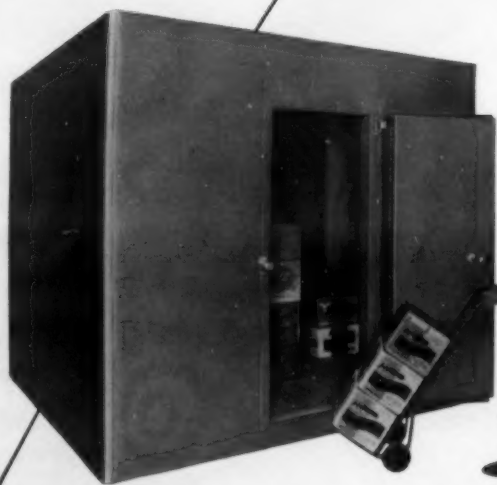
Meat Sections Automated

Face-setting retailers are putting automation to work in the meat department to save time and labor and thus achieve operating efficiency at lowest possible cost, an article points out. Electronic scales compute weight and price of packages before they are placed on a conveyor leading to packaging machines.

With the installation of a gravity conveyor back of the checkstands, the *Bulletin* reports "the customers will walk empty-handed to the car, drive to the carryout building, present a numbered tag to the boy, and packages will be placed in the car."

MORE FOR YOUR CUSTOMER'S MONEY and A FULL MARK-UP FOR YOU WHEN YOU SELL—

Gloekler



Gloekler Walk-In Cooler
Steel Clad Add-to
Construction

As a pioneer designer and builder of commercial refrigerators with more than 50 years of experience, Gloekler offers these important advantages:

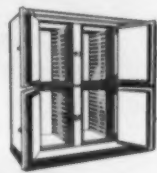
- Your customers get not only the finest in construction materials and design, but the all-important benefits the industry's most advanced skills and facilities can offer.
- Competitive pricing.
- Written warranty of efficient performance.
- As a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.
- Additional profit through sale of add-on features.

Yes, there's more for your customers and more for you in every Gloekler unit you sell.

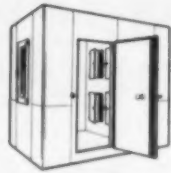
STANDARD AND CUSTOM DESIGNS FOR EVERY COMMERCIAL AND INSTITUTIONAL USE!



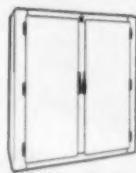
Reach-In



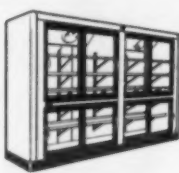
Bakery Freezer



Display Walk-In



Remote Reach-In



Wall Case

Gloekler
P.O. Box 1154-AC
ERIE, PA.

A FAMOUS NAME IN COMMERCIAL REFRIGERATION FOR OVER 50 YEARS

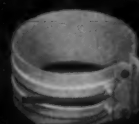


When your problem is...
SIZE...SHAPE or METAL
your answer is

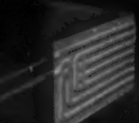
DEAN
GOLD PLATES

"Job Tailored" to your specifications

A baffling problem? Try a Dean Cold Plate made expressly to suit your particular requirements. Made in a variety of metals in cylinders, U's, angles, tanks, etc.



Many shapes



Many sizes



Many metals

DEAN PRODUCTS, INC. 1042 Dean St. STerling 9-5400 Brooklyn 38, N.Y.

Choice territories now available for sales representation. Inquiries invited.



—KEY NO. G-328—

MAKING HERSELF COMFORTABLE on new console "hideaway" unit used with wall-to-wall enclosure at International Mfg. Co. booth, Charlene Lee answers calls by interested salesmen. The unit heats and cools with hot and chilled water.



—KEY NO. G-329—

INTRODUCED by Koch Engineering Co., Inc. is compact "jet" forced draft cooling tower said to combine simplicity of natural draft tower with efficiency of forced draft tower without use of fan. Oakle P. Bullock of Wichita, Kan. watches as Jack Kice, consulting engineer for Koch, uses velometer to show 600 f.p.m. of air coming through eliminator.



—KEY NO. G-3210—

SHOWN FOR FIRST time by Morrison Steel Products, Inc. is "Mor-Sun" V-Series highboy forced warm air furnace with "A" coil plenum hooked up by quick-connect fittings to remote condensing unit. Getting product data from Lou Hine (r.), project engineer, is Lowell Madden, Lowell Distributing Co., Baltimore, Md.



—KEY NO. G-3211—

DISPLAY BY Warren Webster & Co. shows booth visitors how "Webster Newport" year-round conditioner is installed. James R. Welch (l.), Drain Welch Co., Des Moines, gets details from Irving G. Brennan, manager of air conditioning sales.

What Was New At the ASHAE Show

Pictures on this and other pages of this issue are of products shown at the International Heating & Air Conditioning Exposition. For further information on these products use Key Number and the "Information Center" blank on page 25. Other pictures of the show will appear in future issues.



—KEY NO. G-3212—

RIGHT: "Venturi-Flo" distributor display in Alco Valve Co.'s booth has the attention of Jack Franklin, Alco field engineer, and C. E. Johnson, Memphis representative for Bell & Gossett Co.



—KEY NO. G-3213—

LEFT: Quietness of its air conditioning equipment was emphasized by Westinghouse Electric Corp.'s Air Conditioning Div. Attractive Pat Higgins of Chicago uses gestures to stress the point to George A. Moser of North American Heating & Air Conditioning, Chicago. This residential heating and cooling display includes remote air-cooled condensing unit at right and furnace with cooling coil.



—KEY NO. G-3214—

RIGHT: Supervisory Data-Center that sends command impulses over existing electrical circuits is explained to visitors by John R. Nankervis (l.) of Minneapolis-Honeywell Regulator Co.

SO HALSTEAD & MITCHELL ENGINEERS SAID:

WE CAN MAKE FINNED COILS AS FAST AS YOU CAN ORDER THEM

DIRECT EXPANSION, STANDARD & NON-FREEZE STEAM, AND WATER COILS

If your need is for finned coils—*quality* coils—and you need them fast, then write, wire or call us. Halstead & Mitchell's unusual manufacturing facilities give us production control matched by no one in the industry, and you'll benefit by the speed with which we can produce for you.

Halstead & Mitchell's "years-ahead" tooling is matched by "years-ahead" engineering. We are the only company which can offer "Turbu-Flo" fins on these coils. Thus when you order Halstead & Mitchell, you order coils with reserve heat transfer capacity. That's a real safe-performance bonus.

Note that you get this high-speed delivery and extra-capacity at a most competitive price. We are large volume manufacturers, and thus can save production

costs which are passed to you in the form of attractive prices.

Want more details? Then write or call, *Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.*



Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

tioning in India. Surprisingly, getting dollars is no problem. Chief limiting factor is competent draftsmen and installers. He could double his business overnight if he had the manpower, declares Mr. Dua.

India, of course, needs air conditioning as much or more than any other nation on the globe.

Why Interest Rates Are Rising

Present scarcity of credit is a reflection of prosperity. Also it testifies to the fact that people, businesses, and governmental units already have borrowed overmuch the available savings of our country.

Notwithstanding these facts, all three economic categories currently are seeking to borrow more money at a rate higher than the creation of new savings. Credit, therefore, is going to remain tight, and likely will get tighter, until there is a change in the demand-supply relationship of money-credit.

This problem isn't simple. Not only is money (credit) scarce. Simultaneously our nation is short of engineers, managers, skilled labor, and materials. The whole wide world begs for more oil and tankers—to mention only two critical items.

Government outpouring of more money or credit will not relieve these essential shortages. All inflation can do is raise the prices of good things which are in short supply—including labor—and costs of the housewife's market basket.

Political economists should have discovered by now that

they cannot control what people do with their money. If people decide they would rather spend than save, then that is what they will do. If they decide to bid against one another for those goods and services which are available and desirable, prices will go up—and there is precious little any government can do about it.

If consumers determine that they want to spend more by borrowing, then the price of money (as measured by interest rates) will go up, the worth of bonds and mortgages will go down—and again there is very little any government can do about it, even if it resorts to the printing press to satisfy temporarily discomfited political pressure groups.

Tight money is a worldwide phenomenon. Rates of 10% and even more are common in many foreign countries. These excessive interest rates are significant chiefly because they show that

EVERYWHERE there is a shortage of capital and savings.

Nowhere can this shortage of capital be offset by further expansion of bank credit without inflaming the fires of inflation. So what's the answer? Self-discipline on the part of political pressure groups, and by you and me.

How Do You Rate?

In Michigan 40,000 people were asked how they judged a person.

They ranked "grammar and pronunciation" as the top characteristic (chosen by 71.2%).

"Ability to meet people well" came in second. It was mentioned by 66.6%.

"Ability to say what he means" was rated third, with 64.9% of the votes.

Interestingly "the amount of money he makes" was chosen by only 5.4%.—National Parent-Teacher Magazine.

Imaginative Advertising

Let's admire the ingenuity expressed in these local advertising signs, noticed while driving around our state:

"Customers wanted—no experience necessary."—(Fern-dale, Mich., appliance dealer.)

"Please limit calls to four girls."—(Grosse Ile, Mich., telephone booth near Navy installation.)

"Don't stroke me until I'm yours."—(Vegetable counter in Port Huron, Mich., grocery store.)

"Your friendly used cow dealer."—(Meat market, Port Austin, Mich.)

"Grime does not pay. Let us help you lead a cleaner life."—(Dry cleaner, Benton Harbor, Mich.)

A Printer's Calendar

EVERY MONTH

NEG	FRI	FRI	THU	WED	TUE	MON
8	7	6	5	4	3	2
16	15	14	13	12	11	9
23	22	21	20	19	18	17
31	30	29	28	27	26	24
38	37	36	35	34	33	32

We propose this Printer's Calendar, as we know it will be a solution to many problems in the printing industry. We believe our present calendar should be revised for present day use. Write your Congressman today.

Here is what the proposed calendar will do for the printers of America and their customers:

1. Every job is in a rush. Everyone wants his printing yesterday. With this calendar, a customer can order his work on the 7th and have it delivered on the 3rd.

2. All customers want their jobs on Friday—so there are two Fridays in every week.

3. There are seven extra days at the end of the month for those end-of-the-month rushes.

4. There will be no "first-of-the-month" bills to be paid as there isn't any "first." The "tenth" and "twenty-fifth" have also been omitted in case you have been asked to pay them on one of those days.

5. There are no bothersome non-productive Saturdays and Sundays. No time and a half or double time to pay.

6. There's a new day each week called Negotiationday. Contracts may then be reopened each week.

Real Fine Thoughts

If we cultivate a loving and peaceful attitude towards life we should not tear ourselves to bits over petty quarrels, family feuds, and industrial disputes. Inner harmony is the foundation of good health. And the prescription for this will not cost you a shilling. The Bible is packed with prescriptions for harmonious living.—FAITH FORSYTE.

It is the eccentric who is the truly normal man. That is, he dares to be himself, which is what Henry Jones would like to be, only the neighbors would talk. For him we feel a kind of affection. There is a Punch, a Jack-in-the-box, in us all.—CLIFTON FADIMAN.

In order for two people to be friends one will have to be patient.—STENDHAL.

Get Peak Filtering, Drying and Acid Removal at All Times...

with SPORLAN Catch-Alls

**The FULL FLOW
FILTER-DRIERS
that are installed in the
MAIN LIQUID LINE
Not in a By-Pass**



Whether your job calls for sealed or replaceable core Catch-Alls...for refrigeration or for air conditioning installations all the way up to 100 TONS Refrigerant 12, nothing matches the Peak Performance of the famous Sporlan molded porous Catch-All Cores.

*They keep refrigeration and air conditioning systems so perfectly clean,
perfectly dry and acid-free because... They cannot powder... they cannot pack*

The refrigerant cannot by-pass or channel around them

They offer full flow capacity with negligible pressure drop through superior design

They are activated to a high degree of dryness, then sealed to insure Peak Performance when installed, so, for Peak Filtering, Drying and acid removal at all times... buy Sporlan Catch-Alls from your wholesaler today.



SPORLAN VALVE COMPANY

7525 SUSSEX AVENUE ••• ST. LOUIS 17, MISSOURI

EXPORT DEPT. AD. AURIEMA, INC., 89 BROAD STREET • NEW YORK 4, N. Y.

Men on the Move . . .

McGregor's, Inc. (Memphis, Tenn.)—HARRY B. WARNER and ROBERT P. BRATTEN have been promoted to vice presidents of this Frigidaire outlet. Warner has been with the firm since 1936. He will have charge of Frigidaire appliance products. Bratten has been with the company since 1946. He will be responsible for sales promotion and advertising.

Hotpoint Appliance Sales Co. (Little Rock, Ark.)—ROBERT J. BRINDELL, JR. has been named sales manager for this distributing firm. He was formerly with a Jacksonville, Fla. distributorship. His territory will cover 65 counties in Arkansas and six in Oklahoma.

Lone Star Gas Co. (Dallas)—Appointment of JAMES H. SMITH as utilization engineer for the firm's west Texas region of distribution has been announced. He succeeds H. V. RANKIN and will direct gas air conditioning sales activities and industrial gas installations. He formerly was Wichita Falls utilization engineer.

A. R. Webber Co. (West Haven, Conn.)—This wholesaler of heating, refrigeration, and air conditioning supplies and equipment announced appointment of GEORGE IACUCCI as manager of the refrigeration and air conditioning department. He has been with the firm 10 years. The company recently moved into its new and larger modern building.

Columbia Chrysler Airtemp Sales, Inc. (Dallas)—E. K. MITCHELL has been named manager. He has been in air conditioning and refrigeration for 25 years.

Keystone Brass Works (Erie, Pa.)—Appointment of GEORGE DUBLIN as sales manager of the brass division has been announced. He has been with the firm in production and plant management.

Middle West Service Co. (Chicago)—MALCOLM R. RODGER has been elected vice president. He was senior marketing consultant for this business management, marketing, and engineering firm.

Whirlpool-Seeger Corp.—Promotion of OTTO KRAUSS to the newly-created post of manufacturing research director has been announced. He has been general manager of the St. Joseph Div. since 1954.

GLENN A. EVANS who has been general manager of the Marion, Ohio Div., succeeds him at St. Joseph.

JASPER F. BURT, plant manager of the LaPorte, Ind. Div. has been promoted to general manager of the Marion Div.

S. J. SMITH, controller of the Clyde, Ohio Div., will succeed him.

Rader & Associates (Miami, Fla.)—NATHAN FEDER, air conditioning and heating engineer, joined the staff of this engineering and architectural firm. He was affiliated with New York City firms before moving here to Miami recently.

McCormick Brothers Corp. (Albany, Ind.)—Retirement of ARTHUR W. NEEL as vice president of this firm on April 1 has been announced. He was closely identified with the refrigeration industry and contributed a number of developments to the engineering and sales of wire shelving and products to the industry. He will remain on the board of directors and serve the company as a consultant.

General Electric Co.—LEE H. MOHLER has been appointed manager of marketing research and product planning for the Service Shops Dept. In 1953 he became manager of turbo starter sales, Aircraft Accessory Turbine Dept., his position prior to this appointment.

Lewyt Corp.—Appointment of HARRY F. APPELSTEIN as treasurer was announced. He was formerly vice president and treasurer of Samuel M. Langston Co., paper machine manufacturer.

Frank H. Stiening Co. (Pittsburgh)—G. A. VELTRI, formerly associated with Hamburg Brothers, Inc. has been appointed general manager of this Amana refrigeration distributorship.

Refrigeration Discount Corp.—ROYAL E. KELSAY has been promoted to manager of the Los Angeles branch. He succeeds E. D. TUCKER, who died recently. He was field representative for ReDisCo in the Albuquerque, N. M. and El Paso, Texas areas.

JAMES J. PRAGGASTIS has been named assistant manager of the Oakland, Calif. branch, succeeding R. B. LILES who was promoted to manager. Praggastis was field representative of the Portland, Ore. branch.



TOP PERFORMER among distributors of Coleman air conditioning equipment in 1956 was Walther Bros. Co. of New Orleans. Sheldon Coleman, president, congratulates John Mitchell, Coleman department manager of the New Orleans distributor, on winning the performance award at the annual distributor conference. Second place winner was the Paul Davis Co., Oklahoma City.

Philco Corp.—Appointment of JOHN A. WINFIELD as controller of the Appliance Div. has been announced. He was formerly divisional controller of the corporate division.

ROBERT N. PARSELL, former

controller, has been named contract administrator of the Appliance Div.

Wheelco Instruments Div., Barber-Colman Co.—HAROLD DIRKERS, formerly of the Detroit branch, has been named branch manager of the St. Louis office.

HOWARD BERGER, former Detroit branch manager, has been appointed manager of the Cleveland office.

NORMAN H. FERTIG has joined the service staff in Cleveland.

STANLEY HANSON, formerly of the Chicago office, has been named Detroit manager.

GEORGE HALL is a new sales engineer in Detroit.

LOUIS D. GERCKEN has joined the Atlanta sales engineering staff.

HYMAN HACKER and SHELTON CASHBAUGH have been added to the Los Angeles office as sales engineers and ROBERT B. SANQUIST has become service engineer.

JOSEPH S. McDONNEL and JOHN M. SCHNEIDER have joined the Philadelphia office as serv-

ice engineers and HENRY L. BYRNE as sales engineer.

WILLIAM C. ENGLAND and KENNETH J. MUNHALL are new service and sales engineers, respectively, with the Pittsburgh office.

HERMAN J. SCHNEIDER, EDWARD J. PASCH, and ROGER S. WILLIAMS have joined the application engineering group at the Rockford, Ill. office.

Pittsburgh Corning Corp.—PAUL D. JAPP, general sales manager, was elected a vice president. He was manager of sales promotion from 1948 to 1951 when he was upped to general sales manager. In 1956 he became president of the PC Export Corp.

Trane Co.—Two new package equipment sales engineers have been added to the field sales staff. RICHARD N. SHELBY and RALPH L. LANCASTER were assigned to the Cincinnati and New Orleans offices, respectively, where they will work with dealer and distributor organizations. Each has over 11 years' experience in the commercial and residential air conditioning industry.

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

**THINKS EDITORIAL
'MAKES SENSE'**

Carolinas Auto Supply House
Charlotte 1, N. C.

Editor:

If you have any available, we will appreciate very much 10 or 12 copies of page 12 in your Jan. 28, 1957 issue.

This is the editorial page and what you have to say there really makes sense and I would like to use it in talking to our dealers.

W. L. STACKS

**MILK MAID CHAIN USES
FRIGID IGLOO CABINETS**

Frigid Igloo Mfg. Corp.
Yonkers, N. Y.

Editor:

With reference to the article on page 9 of the Jan. 28 issue, given to you by S & R Soda Fountain Co., please be informed that S & R makes only

the soda fountain dipper bar and stands which comprise 10% of the equipment of the store.

Frigid Igloo Mfg. Corp. supplies all of the display cases and hardening cabinets which amount to 49 ft. of cases. The remaining is supplied by Emery Thompson of N. Y.

We are quite sure that Mr. Roberts of S & R did not mean to misrepresent and think that there must be some misunderstanding in the report.

The reason we are writing is that we inform our customers of the amount of equipment that we put into the Milk Maid Ice Cream chain, and do not want to be in a position of having our customers use this article and feel that we are misquoting.

Thank you for the correction.

S. JAMES KRAKOW,
Exec. Vice-Pres.

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ONE ANOTHER INTO
DRAWING THE WALLET...
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THE HATLO HIT
TO J.G. CRISCOLI,
LAS VEGAS, NEV.

**For All Americans:
An Economic And
Political Reappraisal**

Too many of us take for granted the smug belief that the Constitution of the United States will protect us against evils which have befallen less lucky other peoples—who are governed by kings and dictators rather than by laws and votes.

Even so, America's rapid drift toward centralized federal control since the early 1930's makes a few citizens wonder whether our Constitution will, in itself, defend our individual liberties and protect us from a Stalin-type socialist government sometime in the too-near future.

Threatened loss of all our Constitutional liberties cores into the 16th Amendment. Gradually it has changed our concept of U. S. Government from a defender of our liberties at home and abroad to that of a bureaucracy which purports to make life easier for us while we let our muscles atrophy.

Moreover, it has inbred a new Imperialism, a hated political policy which we have revived by spending billions of tax dollars on futile foreign programs of Conquest by Dollars.

Even now Washington beats its dissenters into submission by taking big bites of what they earn, tosses a few crumbs to shiftless sons and daughters—then wastes billions of hard-earned dollars by extravagance and inefficiency. (See Hoover Commission report.)

That there has not been a resounding cry of indignation aroused by revelations of the bipartisan (Democrats and Republicans) Hoover Commission is a sobering thought.

It indicates a dangerous public attitude of indifference toward what the Tax Collector does with our money.

In sturdier days, when our Government actually was the servant of its people, such a report on inefficiency and waste would have aroused both sides of Congress to fast and comprehensive action. What is Congress doing about it now? Nibbling at the fringes of waste at home, and blithely throwing the green stuff away abroad.

If and when we lose our precious Constitutional liberties entirely, it will be through a supine attitude toward taxation.

Even our most radical brothers would think twice before voting away their indi-

vidual liberties. IF they were conscious of the FACTS about taxation, waste, and social control through tax policies, they'd scream the loudest.

Socialist planners lull the unthinking with a trick question: "What freedom have you lost?" That's easy to answer. It is freedom to keep what we earn and spend it as we please—and to keep our noses out of other people's businesses!

That's the vital distinction between European Socialism and American individualism.

"To have and to hold," written into millions of title deeds, tells the story of the individual incentive and rewards that have produced America's magnificent achievement.

"We must show millions of voters how they are being hurt—how their security for old age is melting away," writes Samuel Pettingill. "The guarantees of government are writ on water and carved in sand. Something for nothing is the moral cancer of a free society. Once begun, there is no stopping its deadly course except to find the lowest common denominator of the mass resistance of millions of voters—the pocket-book and the fear of poverty in old age."

The power to tax is the power to destroy—Freedom! Higher and higher income taxes comprised the first plank in Karl Marx's *Communist Manifesto*.

Second plank: try to rule the world.

So what are we doing, we Americans? BOTH! At too high cost to ourselves. We do not imply that we are going Communist. But the parallel is uncomfortable.

Rep. Timothy P. Sheehan of Illinois and some of his colleagues were in one of the House elevators recently when another Congressman observed: "The state of the nation is so bad it's not worth giving back to the Indians."

As they emerged from the elevator they bumped into an Indian chief and his squaw. The amazed congressman recovered from shock to ask this Indian: "How would you like to have back the country?"

"No, no! You owe too much!" the chief protested.

And so we do.

'Accrual' Accounting Reflects Contractor's True Earnings

Good System Provides Accurate Current Data, Quick Monthly Information, Cumulative Gross Profit, Expense, Enough Detail

By C. Dale Mericle

FORT WORTH, Texas — "Everyone recognizes that we are in a very competitive period and we must analyze and manage our business better than ever before," contractors attending the seminar staged by the Fort Worth Air Conditioning Association here were told by George F. Neal of Frigidaire Sales Corp.'s local branch, business management consultant.

"Accounting is a tool to aid you in this respect. If your business doesn't have an accounting system, or if your present system isn't giving you the proper information, I would suggest that you have your public accountant install a system or revise your present one," Neal said.

Pointing out that many people use the word "accounting" when they mean merely "bookkeeping," he declared that accounting "is just getting started where bookkeeping leaves off."

"Bookkeeping deals with the work of making proper entries and proper balances. Accounting," he explained, "includes bookkeeping but goes farther by explaining the results furnished from bookkeeping as to how the business is being operated and what the financial position of the business is. This is done through analyzing and reviewing the financial statements prepared from bookkeeping."

Main Purpose

"Main purpose of accounting is for your use in running your business so you will have more profit and more cash," he said.

It provides information and supporting proof required by federal, state, and local taxing agencies; determines the worth and growth of the business as well as providing a permanent record of all business transactions; provides an accurate financial statement for creditors, including banks, he indicated.

Two main accounting methods are "cash" and "accrual."

Explains 2 Methods

"The 'cash' method is simple, but its disadvantage is that it will not reflect true earnings in the air conditioning business," he said, partly because some installations can extend over lengthy periods.

The "accrual" method of accounting reflects more accurately the true earnings in the contracting business, according to Neal, who also pointed out that this method "is required by the U. S. Internal Revenue Service for any business where inventories are a significant factor in determining income."

A good accounting system, Neal told the contractors, should provide the following:

"1. Accurate current information reflecting the conditions, accomplishments, and trends of the business.

"2. Information quickly and easily obtainable on a monthly basis and within a few days from the close of the month.

"3. Cumulative gross profit and expense figures readily available daily or weekly should the occasion demand.

"4. Sufficient detail to enable you to intelligently measure the efficiency and progress of all parts of your business."

With a good accounting system operating properly bookkeeping should be completed, financial statements prepared, and operations analyzed and reviewed before the 10th of the following month—"not some months, but every month."

These financial statements, he explained, should include (1) balance sheets, (2) profit and loss statement, and (3) gross profit analysis.

The monthly "balance sheet" lists both assets and liabilities, the assets being "current" and "fixed"; the liabilities being

"current," "fixed," and "depreciation reserves."

"Current" assets include cash on hand, cash in bank, accounts receivable, notes receivable, inventories, new products, work in process, parts, used equipment, and prepaid expenses.

Listed as "fixed" assets are land, buildings, machinery and equipment, furniture and fixtures, autos and trucks.

"Current" liabilities include accounts payable, notes payable, interest payable, accrued payroll, and F.O.A.B. and "withholding" taxes.

"Fixed" liabilities would include mortgages payable.

"Net working capital," Neal explained at this point, "is figured by deducting the current liabilities from the current as-

sets. This is the fund used to buy merchandise, to carry accounts and notes, and to pay expenses."

The term "current ratio" means the ratio of current assets to current liabilities.

"The higher this ratio the better. It should be 2:1 or more."

Also listed on the "balance sheet" under "liabilities," Neal said, are the "net worth" items of "investment account," "drawing account," "profit and loss."

Total assets, of course, should equal total liabilities, reserves, and net worth.

The second financial statement—profit and loss statement—"reflects a history of what has happened in the operation of the business," Neal declared, pointing that it's difficult to compute the break-even point in a contracting business with mathematical exactness because expenses vary considerably.

The salesmen's commissions,

warranty and other selling expenses will vary considerably. Such "semi-fixed" expenses like salaries and wages, advertising, car and truck expense, etc., also vary to quite some degree. Only such items as rent, utilities, insurance, taxes, maintenance, and depreciation can be properly called "fixed" expenses.

The difference between net sales and cost of sales is listed on the profit and loss statement as "gross margin" or "gross profit." Whether a firm makes a profit or not depends on its total expenses (the variable selling expenses plus semi-fixed expenses plus fixed expenses) amounting to less than the gross margin.

It's important as well to run off a gross margin (profit) analysis every month, Neal indicated. Point of this is determine net sales, cost of sales, and gross margin for the various categories of products and services the company offers.

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These are just several reasons why a Westinghouse franchise is so highly valued by leading contractors and dealers throughout the country.

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Study Shows

Air Flow Rate Best Indicator of When To Defrost Coil; Need More Capacity To Compensate for Lower Performance

BOSTON—"When a finned coil collects frost, the performance is impaired primarily because the frost restricts the air flow, and only secondarily because of the insulating effect of the frost. The rate of air flow is, therefore, the best indicator of when to defrost the coil."

These statements were made by W. F. Stoecker, assistant professor of mechanical engineering at the University of Illinois, in his paper, "How Frost Formation on Coils Affects Refrigeration Systems," presented at the semiannual meeting of the American Society of Refrigerating Engineers here.

Stoecker maintained that for intelligent design and opera-

tion, the effect of frost on the performance of a system should be known.

In order to compensate for the reduced performance under frosted conditions, the speaker declared, the designer should know just how much additional coil capacity to install. In addition, the user of the system should know when to defrost the coil for economy.

Tests 2 Finned Coils

Stoecker reported on tests consisting of studies of two finned coils, one with fin spacing of nine per inch and the other with a spacing of four per inch. Throughout the tests on both coils the entering air

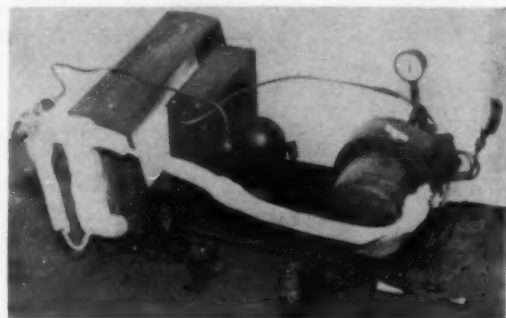
condition was 32° F. and 72% relative humidity. Tests were run over a range of air velocities and at various accumulations of frost.

The over-all coefficient of heat transfer increases with the first several pounds of frost that collect on the coil, Stoecker reported. The U value was 5 to 6% higher with two pounds of frost, but then gradually decreased as the frost continued to accumulate.

A slight layer of frost increases the U value over that of the frost-free coil for several reasons. One is that a thin layer of rough frost provides extended surface area for the coil. Another reason is that the

Like Ole Man River, Keeps on Rolling Along

CONTINUOUS 24-hour-a-day operation since it was started Nov. 18, 1952 is the record of this 1/4-hp. semi-hermetic Brunner condensing unit. Located in the research laboratory of Brunner's Utica, N. Y. plant, compressor is connected to an evaporator to provide normal operating load. Head pressure is 170 lbs., suction pressure 25 lbs. According to Paul Thayer, chief engineer, this service represents 8-10 years' normal use in commercial refrigeration, food or dairy cases, beer coolers, or freezers.



air-side coefficients increase as the velocity of the air becomes higher.

The eventual decrease in the over-all coefficient of heat transfer is caused by the insulating effect of the thickening frost.

There is an increase in the pressure drop of the air as the frost accumulates on the coil. The first few pounds of frost do

not increase the pressure drop appreciably, but each pound of frost that deposits thereafter increases the pressure drop by a larger increment.

The effect of the frost in diminishing the air flow is of more concern than the effect of the frost upon the U value, Stoecker stated. He pointed out that a good guide to the efficient operation of a refrigeration system is the evaporator temperature which is required to provide the specified refrigeration capacity.

If the U value decreases, the mean-temperature difference between the refrigerant and the air must compensate by increasing. The U value at a high air flow rate dropped from 2.74 B.t.u. per hr. per sq. ft. per °F. for the frost-free coil to 2.40 with 7 lbs. of frost.

The U value is reduced 12% over this range which means that the mean-temperature-difference must increase by 12% to provide the same amount of refrigeration.

If the coil is providing one ton of refrigeration with an air flow of 1,450 c.f.m., air entering at 32° F. and air leaving at 24.6° F., and a refrigerant temperature of 16° F., the mean-temperature-difference would be 11.9° F.

An increase in the mean-temperature-difference of 12% would change to 13.3° F. or require the refrigerant temperature to drop to 14.6° F. The change in refrigerant temperature from 16° F. to 14.6° F. would probably not be of much concern in a refrigeration plant.

6 1/2 Lbs. of Frost Cuts Air Flow over Half

In tests on air flow, it was shown that when the coil has no frost, the fan could deliver 1,370 c.f.m. through the coil. After 6 1/2 lbs. of frost have accumulated, the air flow diminished to 540 c.f.m.

As an example of the effect of (Concluded on next page)



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Buy where you see this sign...



*"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon refrigerants.



Air Flow Rate--

(Concluded from preceding page)

this reduction in air flow on the required refrigerant temperature, (assuming that the coil must deliver one ton of refrigeration) with no frost, the following conditions would prevail:

Air flow	1,370 c.f.m.
Entering-air temp.	32° F.
Leaving-air temp.	24.2° F.
U Value	2.66 B.t.u.
MTD	12.2° F.
Refrigerant temp.	15.9° F.

With 6½ lbs. of frost on the coil, the air flow will drop to 540 c.f.m. and the U value will drop to 2.10 B.t.u. per hr. per sq. ft. per °F. The temperature drop of the air through the coil must increase to give one ton of refrigeration at reduced flow.

Air flow	540 c.f.m.
Entering-air temp.	32° F.
Leaving-air temp.	12.2° F.
U value	2.10 B.t.u.
MTD	15.41° F.
Refrigerant temp.	6.7° F.

In order to still provide the one ton of refrigeration the refrigerant temperature must be 7.7° F. with 6½ lbs. of frost instead of 15.9° F. when no frost was on the coil. This drop in the evaporator temperature would be appreciable, and would be of concern to the plant operator since it would represent an increased power consumption of about 22%, Stoecker said.

Should Defrost When Pressure Drop Curve Becomes Steep

From this, says Stoecker, it can be deduced that the air flow is the best indication of the optimum time to defrost. The first few pounds of frost do not reduce the air flow appreciably, but when frost builds up to the point that the pressure drop curve becomes steep, the coil should be defrosted to maintain good coil performance.

An air-flow or static-pressure indicator installed in the air duct, the speaker said, would appear to be the best monitor to show when the air flow has dropped to the point that coil performance is suffering.

In tests made to check the effect of frost on wide-finned and close-finned coils, Stoecker reported that at frost-free conditions, the close-finned coils would cost less to operate. However, at heavier weights of frost, the wide-finned coil is the most efficient.

The results of the research, Stoecker said, would seem to indicate that in selecting a coil for an actual application it is desirable to oversize the coil if it is to be operated at frosted conditions.

The larger coils allow a higher refrigerant temperature and permits a longer period of operation before defrosting.

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Beacham Covers Refrigeration Moisture, Corrosion Problems

MARINETTE, Wis. — Ed Beacham, senior refrigeration engineer of Ansul Chemical Co., held discussions of refrigeration moisture and corrosion problems with servicemen and wholesalers in two southern state recently.

Beacham teamed up with two men in Ansul's sales force to talk over field problems and discuss Ansul "T-Flo" refrigeration driers and "Dry-Eye" moisture indicators. The talks were followed by lively question-and-answer sessions.

Sponsors were the N. O. Nelson Co. in Memphis, Southern Supply Co. in Jackson, Tennessee, and Williams & Co. and United Service Co. in Louisville, Ky.

Other Ansul men who participated in the talks were Tom Lester, central area refrigeration manager, and Glenn Iams.

Sutton Field Engineers Will Establish Independent Service Re-Operation Centers

WICHITA, Kan. — Appointment of five new field engineers to the Service Dept. has been announced by The O. A. Sutton Corp., Inc.

In addition to their regular field service duties, the men will be responsible for establishment of a chain of independent service re-operation centers across the nation to "repair and return" Vornado customer products demanding service on a 48-hour basis, the company also announced.

Two engineers were named to fill recently vacated posts in the midwest and west coast areas. They are W. G. Nicol, Kansas City, Mo., and W. E. Patterson, Cleveland.

Three new field engineers added to Vornado's Service Dept. are J. Shenos, Jr., Washington, D. C.; Jim Middleton,

California; and Claude Rhea, Memphis, Tenn.

Other field engineers are Gene Bogardus, New York City; Ralph Ball, Atlanta; and J. N. Kirkland, Houston, Texas.

Primary responsibilities of Vornado's field engineers are to provide field technical assistance for distributors, dealers, and independent service centers, hold auto and central system air condition service schools, and promote good customer relations.

Crane Packing Adds Plant

MORTON GROVE, Ill. — Crane Packing Co. here has purchased and put into almost immediate operation a 30,000-sq. ft. one-story plant in Vandalia, Ill.

The Vandalia plant is being used to augment the company's home plant.

54 RSES Service Clinic Attendees Visit Ranco

COLUMBUS, Ohio — Fifty-four members of the Refrigeration Service Engineers Society visited the Delaware, Ohio facilities of Ranco Inc., refrigeration control manufacturer, during the two-day Buckeye State Association Service Clinic, held here recently.

The tour—conducted during the first day of the clinic—gave the RSES group a first-hand view of production of Ranco's automatic controls. The visitors toured all departments and saw the company's product in varied stages of manufacture and assembly.

James Manecke, Ranco sales manager, arranged the tour in cooperation with W. S. Martin, local RSES representative. Visitors were transported from midtown Columbus via company-chartered buses to Delaware.

YOU CAN HAVE CONFIDENCE IN

HENRY RELIEF VALVES

The extra capacity, the extra safety, the assurance of positive protection make Henry the choice of engineers and contractors. All Henry Relief Valves in the sizes and types listed below are constructed in accordance with the standards of the ASME. In addition these valves are stamped NB to indicate National Board Certification as to capacities.



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National Board Certified

FOR FREON AND SIMILAR REFRIGERANTS

TYPE 523 STRAIGHT-THROUGH RELIEF VALVE

Valve has Henry "Controlled Cushion" cup seat disc construction which prevents deformation of sealing ring and assures consistent operation. This design provides positive relief at predetermined set pressures. Brass construction. Sizes (inlet x outlet) ½" MPT x ¾" Flare; ½" FPT x ½" FPT; ¾" FPT x ¾" FPT; and 1" FPT x 1" FPT.



TYPE 52 ANGLE RELIEF VALVE

This forged brass relief valve is available in sizes (bottom inlet x side outlet) ¼" MPT x ¾" Flare; ¾" MPT x ¾" Flare; ½" MPT x ½" Flare; ½" MPT x ¾" Flare; and ¾" ODS x ¾" ODS.



TYPE 522 ATMOSPHERIC RELIEF VALVE

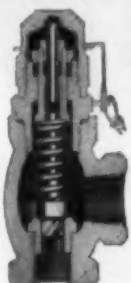
This relief valve of brass construction is for small Freon units and does not have an outlet line connection. Available with ½" MPT or ¼" MPT inlet connection.



FOR AMMONIA

ANGLE RELIEF VALVE

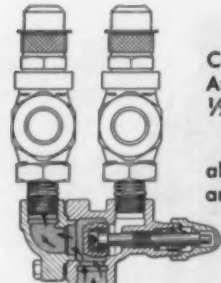
Valve has a soft metal alloy seat. Manual reseating stem permits positive emergency reseating without removing the valve from the line. Stainless steel seat insert, seat disc and main guides. Sizes (inlet x outlet) ½" FPT x ¾" FPT; ¾" FPT x 1" FPT; 1" FPT x 1¼" FPT; and 1¼" FPT x 1½" FPT.



PACKAGED DUAL RELIEF VALVE ASSEMBLY

Complies with ASME Code Requirements. Available with F.P.T. inlet connection sizes, ½", ¾" and 1".

Three-way dual shut-off valves are also available separately in various types and sizes for both Ammonia and Freon.



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SPECIALIZED MANUFACTURERS OF THE COMPLETE LINE OF RELIEF VALVES FOR REFRIGERATION AND AIR CONDITIONING

What's New

Typhoon Offers Air-Cooled Condensing Unit Line

—KEY NO. G-320—

BROOKLYN—A new "economy priced" line of air-cooled condensing units was announced here by Typhoon Air Conditioning Co., Div. of Hupp Corp.

The line was designed specifically for economical unit installation in small stores and offices, according to Typhoon.

Called "Thrifty-Kool," the line consists of 2, 3, and 5-hp. units. Housed in a weather resistant cabinet, the smallest of the three models, TAR 170, measures 26 in. by 26 in. by 41 in.; the TAR 31, 30 in. by 30 in. by 45½; and the TAR 51, 36 in. by 36 in. by 51 in.

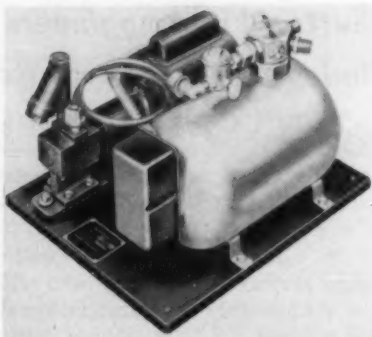
According to the manufacturer, large, oversized bearings are incorporated in the design to increase the life of the compressor, and all bearings are super-finished by diamond boring and micromatic honing. The bearings are permanently lubricated and sealed against moisture, sand, and dust.

Provided with automatic controls and safety features, the



versatile control system provides flexibility for field installation, it was stated. The units, which have hermetic compressors, use Refrigerant 22.

Total cooling capacity of these units is 18,200, 33,200, and 56,000 B.t.u., respectively, the company said.



60 G.P.H. Soda Fountain Carbonator Developed

—KEY NO. G-321—

CHICAGO—A new soda fountain carbonator, with a capacity of more than 60 g.p.h. of sparkling charged water, has been added to the Bastian-Blessing line.

It is equipped with a new patented pump, which will not burn out if the city water pressure fails. A copper coil leads from the pump to the tank and a BX armored cable connects the motor and the magnetic switch.

Ice Cube Maker 'Senses' Need To Replenish

—KEY NO. G-322—

ST. JOSEPH, Mich.—Designed for undercounter installation or use as a free standing unit is the recently introduced 16-in. wide RCA Whirlpool ice cube maker of Whirlpool-Seeger Corp. located here.

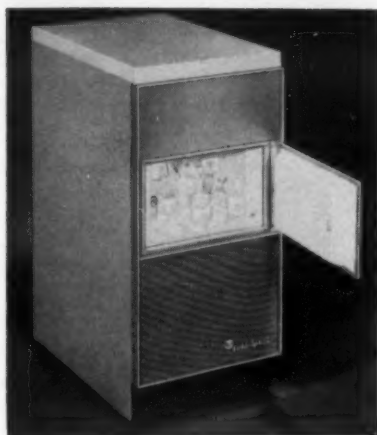
Having a stainless steel front panel, top, side, and back panels of the unit are available also in stainless steel or in formica finishes.

A thermostatic device "senses" need to replenish supply as ice cubes are used.

The unit produces 35 lbs. of ice per day, approximately 1,200 cubes, the company said.

A storage bin holds 16½ lbs. of cubes. Automatically regulated by demand, the cuber "produces more ice in a solid sheet by directing a flow of cold water over an inclined freezing plate," the company explained.

When water freezes to appropriate thickness, the freezing plate is heated so the slab slides down



onto a grid of crossed wires spaced in 1½-in. squares, it was pointed out.

An electrical current sent through the grid melts through the slab of ice through the heated wires, and cubes fall into the bin, the manufacturer further stated.

"We'll start by specifying *FASCO* for this motor application."

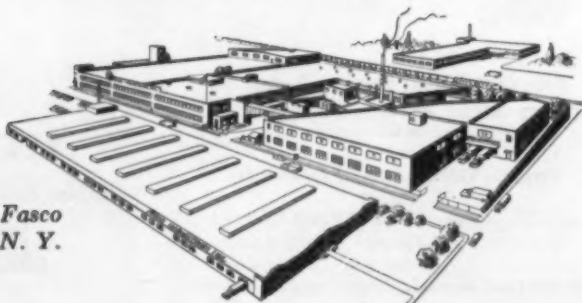
Yes, smart design engineers agree: whatever the exact rating and size of the fractional H.P. motor they specify, it must be a Fasco Motor. Chances are Fasco already has exactly the right motor for the application in production; if not, we will "tailor" a motor to meet specific requirements. Remember... Fasco Motors mean dependability and long life which are strong selling points for your product. So when it's a question of fractional H.P. motors...

CONSULT **FASCO** ... FIRST!

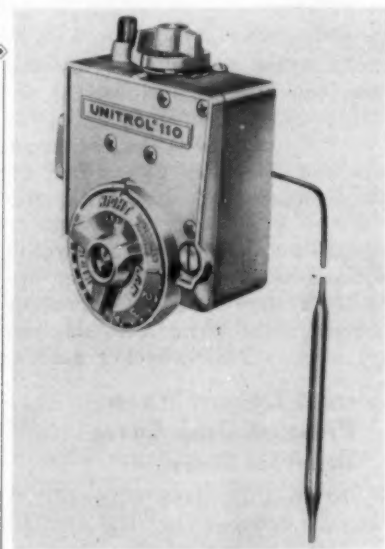
How about letting us send you a copy of our new catalog? It is yours for the asking.



FASCO INDUSTRIES, INC.
ROCHESTER 2, NEW YORK



Composite view of the three Fasco Plants located in Rochester, N. Y. and Fayetteville, N. C.



Cold Air Return Control Added

—KEY NO. G-323—

LONG BEACH, Calif.—A new thermostatic control designed for installation in the cold air return of gas-fired wall and room heaters was recently placed in production by Grayson Controls Div., Robertshaw-Fulton Controls Co. here.

Designated "Unitrol 110-S," the control includes a combination pilot and main burner control valve, an automatic pilot with 100% shut-off feature, and a sensitive thermostat mechanism, the company stated.

Installed at the base of the wall heater, Unitrol 110-S senses and reacts to air temperature at floor level which is returning to the bottom of the heater for recirculation.

Location of the "bulb" in the cold air return, which provides comfortable control with little variation, is said to prove more satisfactory than wall systems, it was noted.

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BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS.
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Tower Eliminator Claims Light Weight

—KEY NO. G-324—

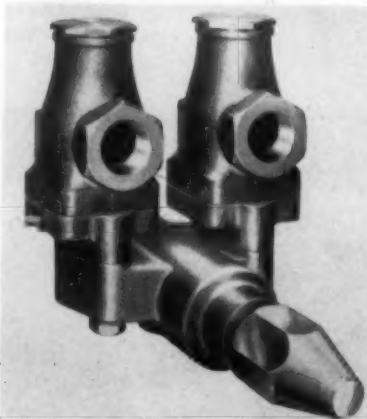
JACKSON, Mich.—Quick Plastics, Div. of Quick Industries, Inc. recently announced a new cooling tower eliminator made of styrene plastic. Fins, spacers, and case are all extruded sections cut to size and cemented together with fully waterproof cement.

Cement liquefies surfaces being joined which then solidify making the whole unit one piece, the company noted.

Three main advantages are claimed for the eliminator. It will not corrode, is lightweight, and has low cost. A unit of 25 by 32 by 4 in. with 30 fins weighs less than 8 lbs., the firm said. The eliminators may also be used as wetted deck.



York Offers New Safety Relief Valve Line



—KEY NO. G-325—

YORK, Pa.—A new line of safety relief valves designed and constructed in accordance with requirements of the latest A.S.M.E. and A.S.A. B-9 codes for use on all types of industrial refrigerating and air conditioning installations has been announced by York Corp., subsidiary of Borg-Warner.

The new line of valves is available in standard pressure settings

ranging from 50 p.s.i. to 300 p.s.i. in 25-lb. increments.

"Capacities of all sizes have been certified by the National Board of Boiler and Pressure Vessel inspectors," it was pointed out. "The York line thus meets all nationally recognized code requirements for standards of design, construction, and capacity."

"These valves are suitable for use with all popular refrigerants and are available in dual assemblies that assure the operation of one valve while the other is removed for tests or resetting."

"Use of special materials in the construction of these valves prevents corrosion and sticking due to 'cold-welding.'"

York claims that its new line has three times the relieving capacity of earlier York valves in the same nominal inlet sizes and at most pressure settings.

"This increased capacity enables the available inlet sizes in the new line of valves (1/2, 3/4, 1, and 1 1/2 in.) to replace valves of larger inlet sizes," it was stated.



Machine Cuts Hamburg Blocking Time 50%

—KEY NO. G-326—

NEEDHAM HEIGHTS, Mass.—Model 80 hamburger molding machine recently introduced here by Needham Mfg. Co., Inc. is claimed to cut preparation time for hamburgs in half.

An extruding unit which delivers hamburger in blocks ranging in size from 1/2 to 1 1/2 lbs., the machine performs this automatically. The blocks are then ready for wrapping.

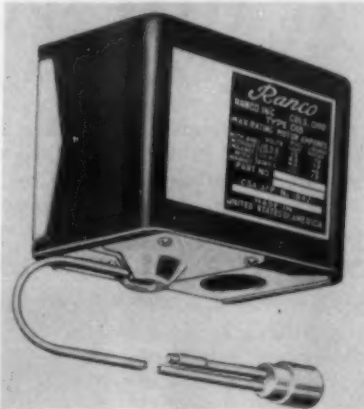
Ranco Introduces Ice Bank Control

—KEY NO. G-327—

COLUMBUS, Ohio—Introduction of an ice bank control for temperature regulation of milk coolers and other ice bank refrigeration units was announced here by Ranco, Inc.

The 018-100 control features a specially-constructed power element with a single temperature, phase-change type liquid fill which responds rapidly to the freezing and thawing action of water at 32°, the company said.

Control contacts are single-pole,



Photographic coverage of new products shown at the 13th International Heating & Ventilating Exposition in Chicago will appear on other pages of this issue and in succeeding issues of the NEWS. Use Key Numbers and the "Information Center" blank on this page for additional information on any of these products.

single-throw type which open when temperature drops and bulb is covered with 1/4-in. ice and close when temperature rises and ice thaws to partially expose bulb.

No altitude or barometric corrections are needed on the control. Installation requires only that bulb be positioned at the edge of the ice bank area, 3 to 4 in. below water surface and that not more than 4 ft. of capillary tube is routed through the water bath.

give your customers Ready-Power

NATURAL GAS air conditioning

economical
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dependable



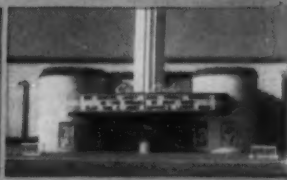
For Office Buildings



For Restaurants



For Churches



For Theaters

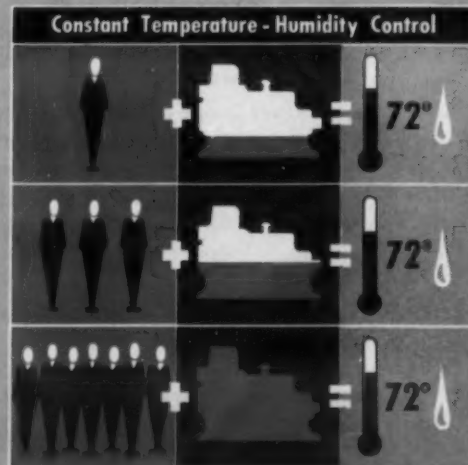
Call for Ready-Power Natural Gas Air Conditioning Units and give your customers the advantages of air conditioning at its best. Designed and engineered to operate efficiently on economical natural gas, Ready-Power Air Conditioning Units give controlled summer temperature and humidity at lowest operating costs known.

Ready-Power Units feature a unique system of capacity modulation which permits continuous operation of the compressor at variable speeds. Cooling rate and power requirements automatically adjust to changing load conditions. Temperature and humidity variations common to "on and off" systems are eliminated. Ideal for theaters, restaurants, motels, hospitals, churches and store and office buildings where latent and heavy sensible loads must be met.

Ready-Power Air Conditioning Units are available up to 76-ton capacity, and

many multiple unit installations of more than 150-ton capacity have been operating for years. Units are designed to operate with chiller or direct expansion equipment. Pre-engineered Chiller Packages, available through Ready-Power, simplify and speed installation of complete air conditioning systems.

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Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

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What's New or Current Literature Available

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What Was New At the ASHAE Show

Pictures shown on this and the following page and on other pages in this issue are of products shown at the International Heating and Air Conditioning Exposition. For further information on these products use Key Number and the "Information Center" blank on page 25. Other pictures of the show will appear in future issues.

—KEY NO. G-3215—

RIGHT: Object of attention in booth of Mitchell Mfg. Co. is the company's new model TA-400, a 4-hp. self-contained, air-cooled, twin-circuit central air conditioner for residential and commercial applications. Helping explain features of the unit is (in center, holding manual) Robert Sheridan, manager of products and sales development for Mitchell's packaged air conditioning division.



—KEY NO. G-3216—

RIGHT: All eyes are on Halstead & Mitchell's recently-introduced residential evaporator for air conditioning, featuring "Turbu-Fla" finned coil. Studying unit are William D. Moffitt, company engineer; O. H. Gerding, Baldor Electric Co., Cleveland; and Byron Halstead, senior partner, Halstead & Mitchell.



—KEY NO. G-3217—

LEFT: Spotlight in the exhibit of Penn Controls, Inc. was on the firm's new "rim-set" room thermostat with large, easily-read dial. As Albert Penn, chairman of the board, looks on, R. H. Luscombe, manager of marketing, demonstrates that the scale remains stationary "as you dial the rim to set the temperature you want."



—KEY NO. G-3218—

REFRIGERATING UNIT in new packaged 5-ton, water-cooled air conditioner introduced by Stewart-Warner Corp.'s Heating & Air Conditioning Div. can be easily removed for replacement, if necessary. Everett Agan, district sales manager, tells W. R. Self, Self Oil Heat, Ambler, Pa. Air conditioner also features four-way air deflection, filters in "door."

—KEY NO. G-3219—

RIGHT: Among products shown by A. O. Smith Corp. was, at left, new "Permaglas" remote air-cooled high side with vertical air discharge. It's available in four sizes. At right is year-round air conditioner available in four heating and three cooling sizes. Discussing display are J. W. Burleson, general sales manager, heating and air conditioning products, and R. J. Evans, assistant chief engineer for air conditioning.



—KEY NO. G-3220—

LEFT: New item displayed by American Furnace Co. is this 2-hp. air-cooled condensing unit, being described by H. R. Mitchell, (left) regional sales manager, for Gage Paulson, Paulson Heating Co., Belvedere, Ill. Also pictured is an AFCO "Base Blo" furnace with cooling coil plenum.



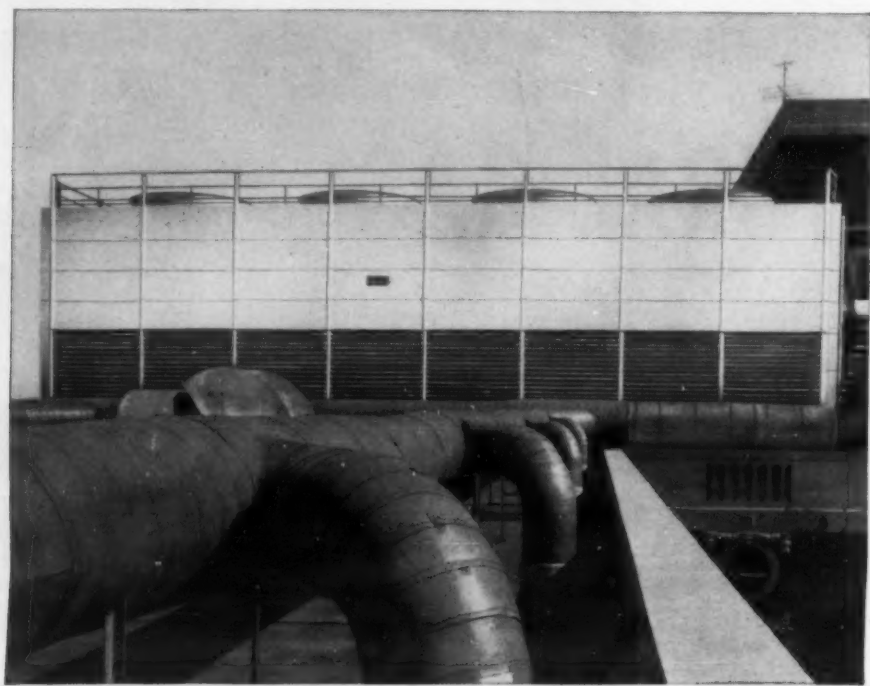
—KEY NO. G-3221—

RIGHT: Attention-getter in the booth of Barnebey-Cheney Co. was this demonstration unit housing a pair of skunks and used to dramatize the point that activated charcoal filters remove odors. Getting the "pitch" from R. L. Trout, assistant sales manager of the firm's Pur-Air Dept., is C. B. Baddaker, Waukegan, Ill.



—KEY NO. G-3222—

LEFT: Introduced by Ingersoll Conditioned Air Div., Borg-Warner Corp., was its new "Airline Package '895'" home comfort center. It provides 3 hp. of cooling, 135,000 B.t.u.h. heating, electronically filtered air, and humidification control. Chris Michaels calls attention to electronic filter.



This Binks cooling tower, atop the Palmer House, is the heart of a newly augmented air conditioning system for 1735 guest rooms, dining and shopping facilities.

at the Palmer House in Chicago...

air conditioning water costs cut 96% by Binks cooling tower

"Our Binks cooling tower has done a great job for us," reports Chief Engineer John F. Edelhofer of the Palmer House Hotel. "Since June of 1956 our records show air conditioning water costs are only 4% of what they would have been under our old 'one-pass' system. In terms of volume, we are saving almost 7700 gallons per minute of operation. The tower should pay for itself in five years."

Cooling tower features

This tower is one of Binks 2-K vertical induced draft series. It cools and recirculates 8000 gallons per minute. Water enters at 95°F and leaves at 85°F. Four 12' diameter aluminum alloy fans assure scientifically balanced air-to-water ratio for high cooling efficiency under all

climatic conditions. All panels and framework in the 72' by 42' tower are heavily galvanized and coated to insure minimum maintenance.

A complete line

Whether it is for air conditioning or the cooling of manufacturing process fluids, there is a Binks cooling tower of the correct capacity and type for every job.

Send for complete data

Ask your Binks branch office for a copy of Bulletin 333 and Bulletin 477-A or write direct to the address below. Binks engineers will be glad to answer your questions and help you solve your cooling problems. There's no obligation.



7159

Binks
EVERYTHING FOR
WATER COOLING



A COMPLETE LINE OF NATURAL DRAFT AND MECHANICAL DRAFT COOLING TOWERS AND INDUSTRIAL SPRAY NOZZLES

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DIRECTORY

ARE you in need of a "just right" man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

(See Page 39)



—KEY NO. G-3223—
LEFT: New Peerless "Universal-K" air conditioning coil was shown by Peerless of America, Inc. Smiling trio includes J. M. O'Connor (l.) and M. W. Knight, Peerless vice presidents, and Chris Michaels of Chicago.



—KEY NO. G-3228—
LEFT: Stress test compares Lau Blower Co.'s former A-15 blower and its new A-15A "Preslock." On the former model, blades would pull out at about 150 lbs. pressure. The new Preslock will withstand in excess of 600 lbs. pressure. Harold W. Faulkender (right), president, points out to Clarence L. Grandstaff of The C. A. Olsen Mfg. Co.



—KEY NO. G-3230—
A FEATURED PRODUCT in the Paragon Electric Co. display was this 700 Series 7-day program timer for heating and air conditioning. R. V. Mitchell, manager of timer sales, was among Paragon personnel on hand to greet visitors.

—KEY NO. G-3224—
RIGHT: New model CM 30 blow-through evaporative condenser displayed by Baltimore Aircoil Co., Inc. has the attention of W. E. Kahler, vice president, sales; Hugh B. Shepard, assistant sales manager; Merritt Taylor, Richmond, Va. representative; and John Engalitcheff, Jr., president.



—KEY NO. G-3229—
RIGHT: Typical "Spotaire" fan and coil units for remote air conditioning applications were displayed by Drayer-Hanson Div., National-U. S. Radiator Corp. At upper left is LRC type and on stands are deluxe and concealed HRC models with newly-designed cabinets. Posing with units is C. W. Pollock, chief engineer.



—KEY NO. G-3225—
UNVEILED at the show by the Heating & Air Conditioning Div. of National-U. S. Radiator Corp. was this "Capitolaire" model VER fan-coil unit for cooling and heating. Looking over the unit are Paul Conway, sales engineer, Unarco Air Conditioning Products, National-U. S., and Robert Gilkey of the division's Indianapolis branch.

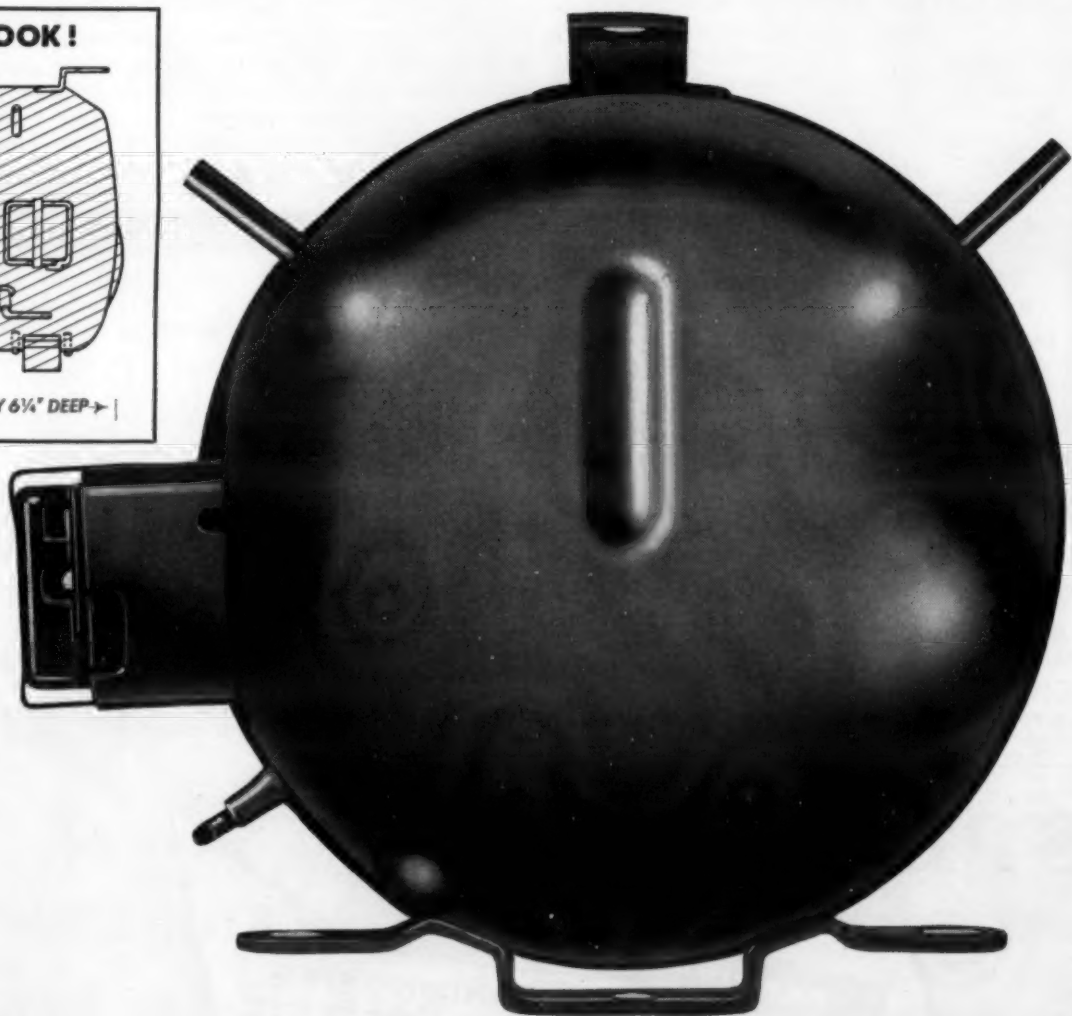
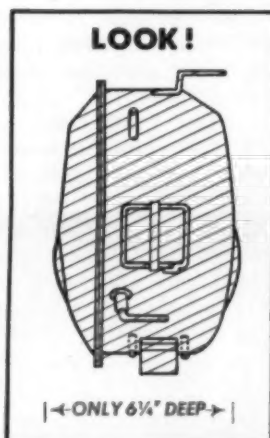


—KEY NO. G-3226—
"RHEEMAIRE" CONDENSING UNIT hooked up to evaporator in plenum of "Rheem-glas" highboy warm air furnace has cooling capacity of 40,000 B.t.u.h., says William P. Lorentz of Rheem.



—KEY NO. G-3227—
NOW BEING TESTED for various applications in the air handling field is Elgen Mfg. Corp.'s new "Divertaire," described on card being held by Mary Pastor.

NOW AVAILABLE... NEW "SPACE-SAVER" HERMETICS DEVELOPED BY KELVINATOR



LOOK! ONLY 11 3/8" WIDE
COMPACT, LIGHT WEIGHT, HIGH CAPACITY, TOP QUALITY
... ONLY 10 1/2" HIGH x 11 3/8" WIDE x 6 1/4" DEEP!

Kelvinator now is in production on a series of new, truly compact sealed compressors. These advanced-design "Space-Saver" units have been thoroughly proved in volume testing of production runs. Available in models for natural or forced convection applications,

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Kelvinator



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SPECIALISTS IN REFRIGERATION SINCE 1914

For more information about products advertised on this page use Information Center, page 25.

Ranco Has Record Year In '56, Sales Up 10%; Sees Expansion In Cooling Sales

COLUMBUS, Ohio—Air conditioning will be the next big field for expansion of Ranco Inc.'s sales, E. C. Raney, chairman, and A. M. Hoover, president, told stockholders at the annual meeting.

Sales of Ranco were reported as 10% higher in fiscal 1956 than the firm's previous record year of 1955.

Earnings approached the 1955 total, while dividends were largest in the company's history, Ranco said.

Growth in sales of the firm's controls for air conditioning equipment reached a new high more than double the preceding fiscal year and accounted for almost 20% of total business, it was noted.

Sales to this industry were more than 500% greater last year than in 1953, and 86% greater in the quarter ended Dec. 31, 1956, first in the current fiscal year, than in the like period a year earlier.

SEES BIG FUTURE

Raney foresaw a large potential market for Ranco's controls in new equipment that will serve both cooling and heating, which he predicted will grow in popularity in many parts of the country.

An 84% increase occurred in sales of controls for clothes dryers, the company explained. Refrigeration controls gained about 7%.

Sales for fiscal year ended Sept. 30, 1956 jumped to \$25,362,137 compared with \$23,047,640 the previous year. There was an improvement of 50% in the relatively small production of automotive air conditioning controls, the firm said.

Net earnings for fiscal 1956 amounted to \$2,212,800, or \$2.21 a share on the 1,000,056 common shares outstanding. This compared with \$2,346,140, or \$2.35 per share in the preceding year.

Four quarterly dividends of 30 cents each, or a total of \$1.20 per share, were paid in the 1956 fiscal year, it was added. This compared with payments totaling \$1 a share in the previous year.

Hoover reported sales in the quarter ended Dec. 31, 1956 as \$6,457,209 compared with \$6,642,283 a year ago. Net earnings were \$504,298 or 50 cents a share against \$674,119 or 67 cents a share in the like period last year.

He attributed the decline in earnings as primarily due to lower sales of automotive, refrigeration, and specialty controls in December, reflecting the efforts of customers to reduce year-end inventories and hold forward buying more closely in line with production. Business in air conditioning controls was up 46% for December and 86% for the quarter over the like periods a year ago.

JANUARY FORECAST

Hoover forecast January sales about 18% greater than the monthly average for the December quarter and approximately the same as January 1956.

All directors were re-elected as follows: E. C. Raney, chairman, A. M. Hoover, president, Harcourt Amory, Charles B. Harding, H. A. Lewis, L. A. Philipp, E. D. Raney, secretary, O. M. Spielman, W. I. Vorys, and W. R. Opp, vice president of manufacturing.

Opp was appointed a director in November to complete the unexpired term of Roy D. Chapin, Jr. and his formal election at the meeting confirms him in the post vacated by Chapin.

Calif. Group Urges

Adoption of Uniform Cooling, Refrigeration Ordinances In 3 Areas

LOS ANGELES — Inland Air Conditioning and Refrigeration Contractors Association is reported to be "knee-deep in work on ordinances."

Greatest part of the area covered by Inland—Riverside county, San Bernardino, and Los Angeles county east of Kellogg Hill—either have no ordinances covering this phase of the air conditioning and refrigeration industry, or where ordinances do exist the rulings on these ordinances handed down by authorities vary greatly, it was pointed out.

The Inland association wants to have these areas adopt, with cooperation of local officials, uniform ordinances on air conditioning and refrigeration. "Through this we feel there will be better installations made and as a result, general improvement throughout the area," the group stated.

It is thought this would be "of material benefit" to the customer and a saving to the contractor because inspection requirements would be "well defined."

A proposed ordinance has been read, and will continue to be read at all general meetings until it has been adopted, the group explained.

Replies have been received by the association from several cities notified of the association's wish.

It also has a committee at work on a heating and ventilating ordinance.

Bodine Opens New Plant For Small Motor Output

CHICAGO — Bodine Electric Co. opened a \$1,750,000 plant here for production of fractional horsepower motors. A two-story office building, costing about \$800,000 is to be built at the plant site this summer, Royal Bodine, vice president, pointed out.

The plant has 148,000 sq. ft. of floor space and allows consolidation of all company manufacturing under one roof, it was explained.

Anheuser-Busch Service Schools Being Held In 49 Major Trade Areas

ST. LOUIS—Anheuser-Busch is conducting a school for ice cream refrigerated cabinet servicemen that will be held in 49 major trade areas of the nation by the end of June, Fred W. Schulenberg, sales manager of the refrigerated cabinet division of the company, announced recently.

Schulenberg estimates that several thousand servicemen will attend this school before the six-month program is completed.

Each serviceman in the trade area will receive an invitation to attend this school from the A-B refrigerated cabinet distributor in the area, when the meeting is held in his section of the country.

The seventh in the series and the first such meeting in St. Louis was held in the early part of February at the Anheuser-Busch Brewery. Over 100 persons attended this meeting.

Stark Woodard, A-B refrigerated cabinet service manager, conducted this meeting as he will the entire series.

Included in the three-hour program were film slides of the various types of equipment to illustrate Woodard's talk. At frequent intervals, an open session was held for discussion of servicing methods between the speaker and the servicemen in attendance.

Allied and component parts of A-B cabinets were exhibited and explained during the meeting, and each serviceman received a complete manual on servicing techniques of Anheuser-Busch cabinets.

First A-B school was held early in January in Peoria, Ill., sponsored by district manager Cecil Krug. Other January meetings were held in Omaha, Neb., sponsored by district manager John Mullane, and in Dallas, sponsored by Norris Dairy Products.

The latter firm also sponsored meetings in Fort Worth and San Antonio, Texas during the first part of February. The Lamar Co. of Houston sponsored the meeting there. Krug sponsored the St. Louis meeting.

Emler Distributing Co. sponsored late February meetings in Nashville and Memphis, Tenn., Louisville, Ky.,

Cincinnati, and on March 1 in Indianapolis.

Walter S. Crawbuck will sponsor get-togethers March 11 in Miami, Fla. and March 13 in Jacksonville, Fla. Lancaster Equipment Co. will hold meetings March 15 in Atlanta, March 18 in Birmingham, Ala., and March 20 in Mobile, Ala. William B. Brandt's conclave will be in Jackson, Miss. March 22.

Jeffreys & Sons will hold meetings in Charlotte, N. C. April 1, Raleigh, April 3, Richmond, Va., April 5, and Washington, D. C. April 8. Pennco, Inc.'s gatherings will be in Baltimore, April 10, Philadelphia, April 12, and Pittsburgh, April 15. Penco Sales, Inc. will sponsor meetings in Chicago, April 22 and Milwaukee, April 24. Morrison Carbonic will hold meetings in Grand Rapids, Mich. April 26, Detroit, April 29, and Toledo, May 1.

Charles Bertram will sponsor the Cleveland meeting May 3 and in Columbus, Ohio May 6. Lo Temp Sales will hold the meeting in New York City May 13. (At least two and possibly four additional locations will be scheduled between May 14 and May 17).

F. W. Smith will sponsored gatherings in Hartford, Conn. May 20, Providence, R. I. May 22, Boston on both May 23 and 24. Riley Whitmore will handle meetings in Duluth, Minn. June 3, Minneapolis June 5, and Sioux Falls, S. D. June 7. Stanley S. Cheever will hold the Salt Lake City meeting June 10 and the Hurley Co. in Denver, June 12. Albuquerque, N. M. June 14, and El Paso, Texas June 17.

Insulation Engineering Forms In El Monte, Calif.

EL MONTE, Calif. — Insulation Engineering Corp., recently formed here by John M. Fenwick, president, and Walter R. Martinez, vice president and field representative, will act as a contractor and offer "full engineering facilities" to provide the specialized requirements of hot and cold insulation, it was announced.

The firm will furnish and install steel shelving and meat tracks as well as refrigerator doors, fronts, and pre-fabricated insulated steel and wood sectional boxes, it was noted.

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MUELLER BRASS CO.

What Was New At the ASHAE Show



—KEY NO. G-3237—

IN-DUCT HUMIDIFIER, power driven vapor unit, installs in air duct and is said to provide vapor with or without heat, at 1,500 c.f.m. and up. Bryce M. Tuttle (l.), of Air Contracting Co., and Andrew Katko (c.), of Air Specialties, get the particulars from Robert J. Lewis, industrial sales manager of Walton Laboratories, Inc., the manufacturer.



—KEY NO. G-3239—

"HYGROL" CONTROLLED HUMIDITY AIR CONDITIONER, of the Niagara Blower Corp., features "no frost" direct absorption of moisture. "Water fall" fascinates model Ingeborg Jorgensen.



—KEY NO. G-3240—

COCKING AN EAR TO "Q-DUCT" ACOUSTICAL treated registers manufactured by Industrial Acoustics Co., Inc. are (front to rear), A. C. Hawthorne, sales manager, Industrial Div., E. R. Spence, of Montreal and Charles Rink, the company's Philadelphia representative.



—KEY NO. G-3238—

TO COLLEGE will go one of the giant Recold multi-zone model 400 air conditioners, in which Pat Lee poses between the coil and the blower section. It will be installed to air condition the Engineering and Physics building of the Illinois Institute of Technology.



—KEY NO. G-3241—

FULL 180° AIR PATTERN is claimed for Auer Register Co.'s new "Fanair" air diffuser. Model Vivian DeVine has discovered the source of a warm breeze.

MASS PRODUCTION COSTS TOO HIGH?

Here's the ideal low-cost indicator for those hard-to-get-at places.

The new Allin "237" has all the proved Liquid Eye features plus:

- smaller—more compact—dependable. (about 1/3'd smaller in the 3/8" male to female size than any previous unit).
- complete self-contained economy unit.
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Over 1,000,000 Liquid Eyes Sold to Date!

Pictures that appear on this and other pages in this issue are of products shown at the International Heating and Air Conditioning Exposition. Other pictures will appear in future issues. For more information on these products use Key Numbers and the "Information Center" blank on page 25.



SAVE 2 WAYS WITH FURNAS "IN-BETWEEN" STARTER SIZES

LOWER COST—save up to 25% by buying the exact size starter for the job, instead of having to take a standard one that may be too large.

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For information on our complete line of air conditioning and refrigeration controls, write for Bulletin 5519. Furnas Electric Company, 1114 McKee Street, Batavia, Illinois.

A32

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NOW OIL SEPARATION AND SYSTEM SILENCING ENGINEERED INTO A SINGLE UNIT



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Silencing is more than just incidental and partial with Heat-X 'OSM' Oil Separator-Mufflers. These units were specifically engineered to completely silence all system noises and absorb all pulsations from the compressor . . . in addition to separating entrained oil.

And these "all-in-one" units make float troubles a thing of the past. 'OSM' Oil Separator-Mufflers have no floats to hang open or stick closed. Instead, units incorporate a positive action Velocity Pressure Mechanism, exclusive with Heat-X, which opens only when compressor is running . . . closes of its own weight when compressor stops.

Ratings based on tonnage, not horsepower, permit close matching of unit to requirements . . . eliminate need to buy more than required capacity.

Ruggedly constructed to A.S.M.E. specifications. Available in capacities from 1 to 75 Tons F-12 and 1 to 100 Tons F-22.



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A YEAR of activity and growth was celebrated with the first birthday party of Bay Area Refrigeration Contractors, Inc., held in San Francisco recently. Members of RACCA of Northern California here extend congratulations to Bay Area. Left to right: W. W. Humburg and George Eskra of Ray Winther Co., RACCA member; the Bay Area officers: Fredric L. Pound, secretary; Gus W. Lindell, president; M. H. McElroy, chairman executive board; John E. Pierson, vice president; and Tom Carney, treasurer.

Bay Area Refrigeration Contractors Celebrate Year of Accomplishment, Growth with Cake

SAN FRANCISCO—A birthday party with a cake and trimmings to celebrate a first year of accomplishment and steady growth was held here recently by Bay Area Refrigeration Contractors, Inc. BARC has a membership of 45, in 40 companies in San Francisco, San Mateo, Alameda, and Contra Costa counties, President Gus W. Lindell said. Other officers are: John E. Pierson, vice president; M. H. McElroy, chairman executive board; Fredric L. Pound, secretary; and Tom Carney, treasurer.

Dunhill Soda Fountain Becomes Dunhill Food Equipment

BROOKLYN — Carl Thaw, sales manager of Dunhill Soda Fountain Corp. here, announced that the company name has been changed to Dunhill Food Equipment Corp. Thaw stated the corporate change of name was made necessary "because of Dunhill's ever-expanding line of food equipment." The company now makes restaurant and luncheonette equipment as well as soda fountain equipment.

Tandem Defrosters Operating In Cycles Fully Eliminate Dairy Plant Frosting

DENVER—Complete elimination of the frosting problems has been achieved in the new million dollar plant of Carlson-Frink Co., which was completed here in January.

Cited as the most modern dairy products plant between Chicago and the West Coast, the new Carlson-Frink plant has completely separated the ice cream and cottage cheese making divisions from the milk processing areas.

The ice cream plant, at the right rear of the building, incorporates five continuous freezers with an output of from 250 to 350 gals. per hour. Two automatic one-way Mojonier conveyors direct from the continuous freezers transfer soft ice cream into the 3,300-sq. ft. hardening room.

The temperature in the hardening room is held at -15° F. by means of two Niagara "No-Frost" units, operating in tandem. Automatically defrosting in cycles, they have completely eliminated frost problems, according to J. A. Wiedner, who is plant superintendent.

Except for occasional forming of condensation on the ceiling, there has been no frost problems whatsoever. Along with the two Niagara units, another innovation in the freezing room is a versatile waist-high conveyor system, for

loading combination milk and ice cream refrigerated trucks at the dock which is located just outside.

After freezing, ice cream in 2½ and 5-gal. paper containers is stored in steel bins. Packaged products are kept in wire baskets.

For swift loading, the waist-high rubberized canvas belt conveyor swings to any area in the storage room. Ordered stock is transferred over it to the center of the room.

There the stock is dumped onto a fixed conveyor which runs through the wall to the waiting delivery truck outside the building.

With this setup, one man can handle loading operations which formerly required at least three, according to Wiedner.

Also added at the Carlson-Frink plant was a complete new "Vita-Freeze" production unit for Eskimo pies and other stick ice cream specialties. Containing 72 molds, the sub-zero brine tank can produce 7,200 Eskimo pies hourly.

Haverly To Quadruple Bulk Milk Tank, Other Output In Expansion

SYRACUSE, N. Y. — The Haverly Equipment Div., John Wood Co., has announced plans for a new enlarged Syracuse plant and establishment of a branch plant in Royersford, Pa.

The two new plants will quadruple production of bulk milk tanks and other farm refrigeration equipment by early 1958, according to George W. Schelling, Haverly vice president and general manager.

The announcement came as the firm signed a three-year lease on the Martin Development Corp. building at 208 S. Geddes St. and leased additional warehouse space at 115 N. Geddes St., two blocks from the new plant.

A part of the new plant will be occupied immediately and Schelling expects to complete the move by April 15.

"Bulk tank cooling of milk is rapidly becoming standard procedure with progressive dairymen. As a result, our bulk tank sales rose 50% in 1956 and a still further rise in shipments is anticipated in 1957 on the basis of present order backlogs. We also anticipate increased demand for our farm can coolers, ice builders, and chilling units," Schelling said.

The company's new Syracuse plant is more than double the size of the old plant maintained by Haverly at 1970 W. Fayette St. since January, 1942.

The S. Geddes location is on a New York Central Railroad siding and is equipped with two truck docks. It has fluorescent lights throughout, angled skylights, and 440-volt power distributed by bus ducts throughout the factory area.

The plant has two overhead traveling cranes, compressed air facilities distributed throughout the building and A.D.T. service, Schelling reported.

Duplicate facilities in Royersford, Pa. will utilize buildings and equipment already owned by John Wood Co. Schelling will be in charge of activities in both Syracuse and Royersford.

Haverly was formerly known as the Haverly Electric Co., Inc. The company was established in East Syracuse, N. Y., on Oct. 4, 1921, and became a division of the John Wood Co. in August, 1956. C. U. Haverly, the founder, continues to take an active part in directing sales promotion activities.

NEW

Marsh Testing Set



... with temperature scales for Freon-12 and Freon-22

The finest of testing instruments have been made still better. Pictured above are the new models of Marsh pressure and compound testing gauges . . . with two scales in color showing corresponding temperatures of Freon-12 and 22 . . . with greater pressure ranges in both gauges. In the Compound gauge, the important retard scale has been increased to read from 0 to 80 lbs., and maximum reading is increased to 250 lbs. The range of the pressure gauge has also been increased . . . to 400 lbs.

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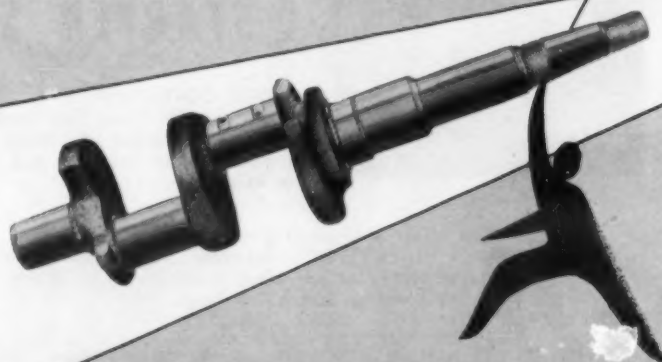


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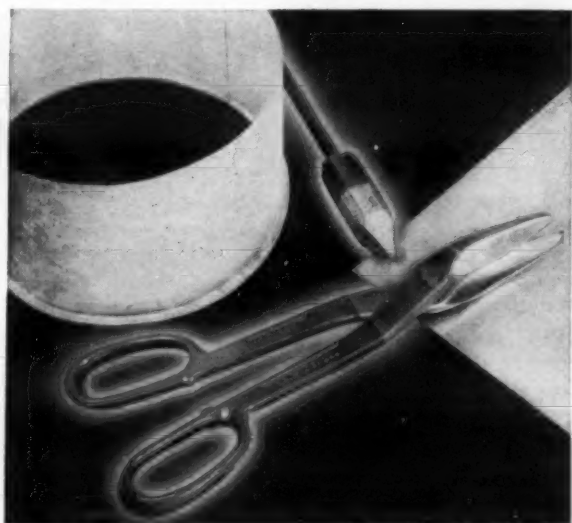
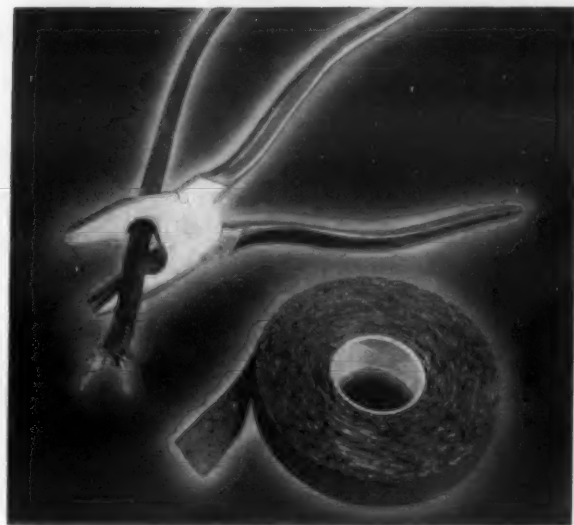
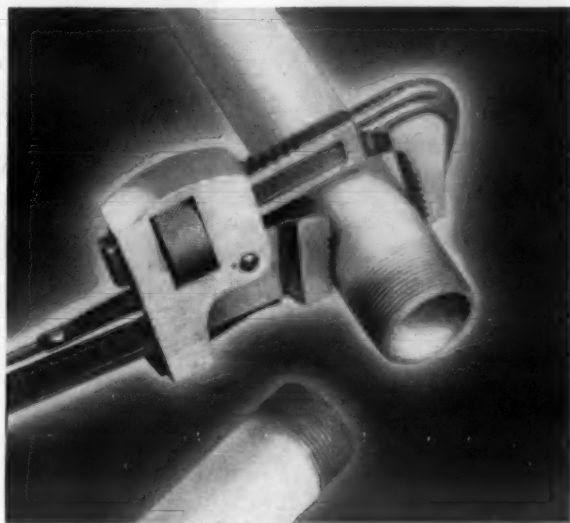


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Which type of distribution will bring you the best results in the residential air conditioning market?



FROM every side, there is speculation on who will do the bulk of selling in the residential air conditioning field. They've all been named, from appliance dealer to electrical contractor, from plumber to venetian blind distributor.

The reason for this speculation: The industry must expand its distribution rapidly to meet the growing demand. This rapid expansion is bringing in new air conditioning dealers from many sources. And the NEWS is the only medium that can keep up with

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The NEWS is investing tens of thousands of dollars to select from appliance dealers, plumbing contractors, heating contractors and others, those who will be the important air conditioning contractors of tomorrow. These new subscribers prove their interest in the field by *paying* for their NEWS subscriptions—to get the help, news, and information they need to sell and install residential air conditioning. These new groups are turning to the NEWS because an air conditioning

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DETROIT, 450 WEST FORT ST.,
WOODWARD 2-0924, J. B. SULLIVAN.



—KEY NO. G-3242—

CORNER discharge air diffuser, among the broad line of air diffusers, registers, and grilles exhibited by Carnes Corp., gets a look-see from Pat Lee. In this diffuser the cone setting is such as to secure a two-way air pattern with equal portions of the primary air discharged at a 90° angle to each other.

What Was New At the ASHAE Show



—KEY NO. G-3244—

FEATURED PRODUCT in the exhibit of Frick Co. was this new evaporative condenser (Type 47-AE) arranged for low visibility or ceiling installation. C. C. Smith (left), Frick's assistant sales manager, points out to Robert D. Melsha, Jr., Refrigeration Equipment Co., Cedar Rapids, Iowa, that unit's low height is achieved by putting fan on side instead of on top.



—KEY NO. G-3246—

PADLOCKED CONTROL PANEL, with exposed gauges and pilot lights to warn of trouble, is featured by Acme Industries, Inc. Lock keeps pretty fingers of model Ingeborg Jorgensen off the control.

—KEY NO. G-3243—

RIGHT: Hall Neal Furnace Co. exhibits a heating companion unit for use with cooling unit. Pictured with model Ingeborg Jorgensen is the "Low Boy" forced air model G-100.



—KEY NO. G-3245—

ABOVE: Marlo F7.7 air conditioner is the new unit offered by the Marlo Coil Co. Bob Buss, Marlo sales engineer, calls attention to the rounded corners and clean appearance of unit which will hit the market later this spring.

—KEY NO. G-3247—

RIGHT: Plug-in design capacitors, new product of Sprague Electric Co., are said to have a weather-proof finish for outdoor application. Model Vivian DeVine smiles approval.



—Edwards— CO-AXIAL CONDENSERS



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- Use 35% less water
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- Stock sizes: ½ to 7½ tons
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- Easy installation
- Many compact shapes



—KEY NO. G-3248—

PACKAGED LIQUID CHILLER, available in multiples of 5 hp., up to 25 hp. is new with A. Brown Products Corp. Chris Michaels shows off the company's 10-hp. model.

Reserve Your Extra Copies Now of the March 18 Air Conditioning "Show Case" Issue

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AIR CONDITIONING & REFRIGERATION NEWS
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Janisse Named to Instrument Society Post; Organizes High Velocity System Symposium for ASHAE Meeting

MILWAUKEE — Norman Janisse, assistant chief field engineer of Johnson Service Co. here, has been appointed director of the Heating & Air Conditioning Div. of the Instrument Society of America.

This is one of several industry divisions which the ISA has recently created to supplement the activities of its Technical Division Committees by conducting programs within their industries aimed at persons not entirely concerned with instrumentation such as representatives of management and other fields.

Considerable progress in this direction has already been made by Janisse through the Milwaukee Section of ISA of which he was the first president, it was pointed out. As a result, annual symposiums on heating and air conditioning and its control are held each fall in cooperation with the University of Wisconsin. Janisse has also succeeded in organizing a symposium on "Control of High Velocity Air Conditioning Systems" to be held in connection with the June meeting of the American Society of Heating & Air-Conditioning Engineers at Murray Bay, Ontario, it was noted.

Myers Succeeds Kniss Controls Co. Ups As Wesco General Mgr. Sales 15% In '56

PITTSBURGH — John F. Myers, vice president of Westinghouse Electric Corp., has been appointed general manager of the company's marketing subsidiary, Westinghouse Electric Supply Co., it was announced here.

Myers thus assumes the responsibilities of Victor D. Kniss, who has resigned as president of Wesco "to pursue other fields of business activity."

Chris J. Witting, vice president and general manager of the Westinghouse consumer products divisions, said that Myers, a 35-year veteran with the company and former president of Wesco, will also continue his duties as vice president of the parent company.

Myers joined Westinghouse in 1922 as branch manager of Wesco at Washington, D. C. He was named manager of Wesco's middle Atlantic district in 1945 and five years later was elected president of Wesco. Early in 1955, Myers was elected a vice president of the parent Westinghouse company with responsibility for the operation of the consumer products divisions of the firm.

Both Kniss and Westinghouse management stated that Kniss' resignation was entirely voluntary.

He has been president of Wesco since early 1955.

For 25 years Kniss has occupied positions of increasing responsibility in the retail and merchandising areas of business, it was noted. "It is my feeling," he said in announcing his resignation, "that the time is here when I must re-evaluate my future business career."

"I have always wanted to manage a wholly integrated company fully responsible for its product design, engineering, production, and distribution. This I hope and plan to do," he said.

SCHILLER PARK, Ill.—Sales of Controls Co. of America increased 15% and earnings rose 14% in 1956 as compared with performance of its predecessor companies in 1955, Louis Putze, president, announced here recently.

Formed in January 1956 by the merger of Soreng Products Co., Schiller Park, and A-P Controls Corp., Milwaukee, Controls Co. in 1956 had sales of \$27,391,948 as against \$23,694,103 the preceding year.

Earnings after taxes were \$994,958 as against \$875,877. On the basis of 604,316 shares of common stock outstanding Dec. 31, 1956, the latest year's earnings were equal to \$1.65 a share. After preferred dividends of \$21,560, the 1955 earnings were equal to \$1.41 a share. The company's preferred shares were retired in May of 1955, it was noted.

Income tax provisions were \$943,000 in 1956 and \$903,200 in 1955.

18 German Experts Tour Armstrong Furnace Plant

COLUMBUS, Ohio—Eighteen heating and air conditioning experts from West Germany visited the Armstrong Furnace Co. plant here recently to learn some of the advances made in the field and how they were accomplished, it was reported.

Columbus and Armstrong were part of a three-week, ten-city tour that encompassed all phases of heating, air conditioning, and plumbing industries, it was explained.

A comprehensive "study-tour" of the Armstrong facilities took a full day. A movie depicting the company's history, its products and their development, the production lines, and consumer use was shown, and the visitors toured production and assembly facilities.

Offers 'Satisfabricated' Multi-Zone Conditioners

OKLAHOMA CITY — Introduction of its new "Satisfabricated" line of self-contained multi-zone air conditioners featured the sales meeting held by Governair Corp. at its offices here Feb. 21-24, it was announced.

With representatives from all parts of the country in attendance, including several new to the Governair organization, company officials outlined product and sales plans for the coming year, and also briefed the group on the program for the International Heating and Air Conditioning Exposition in Chicago.

The entire group then journeyed to Chicago to attend the Exposition, at which Governair was an exhibitor, it was disclosed.

Triangle Div. To Produce 1/8 to 3/4 In. Copper Tubes

NEW BRUNSWICK, N. J.—Effective immediately, the Brass & Copper Tube Div. of Triangle Conduit & Cable Co., Inc. here will produce eight sizes of copper refrigeration tube from 1/8 to 3/4 in. in accordance with ASTM Specifications B-280, it was announced by J. D. Daly, director of sales for the division.

Daly said the tube will be dehydrated, deoxidized, dead soft, bright annealed, ends sealed, and manufactured in 50-ft. coils.

"Each coil will be individually packaged in Triangle's sulphur free corrugated carton which is color coded for easy identification," it was stated. The color code is crimson.

A descriptive folder and catalog are available from the firm.

Triangle refrigeration tube is now available from stock at the Triangle distributors across the country, according to the announcement made by the producer.

Governair Salesmen Hold Conclave



ATTENDING Governair sales meeting, Feb. 21-24 in Oklahoma City home office where the new line of "Satisfabricated" self-contained, multi-zone air conditioners were introduced were, left to right: Charles Fitzgerald; Ansley Bruce; Harold Jones; Irvin Edwards; Art Edwards; Fred Balzer; Pat Shea, sales manager; Jim Coleman; Bernard Leventhal; Russ Oakleaf; Harold Feldstein; Bill Farnum; Bill Moler; and Col. Wm. H. Hollingsworth. Group then attended the ASHAE show in Chicago.

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MANUFACTURERS' REPRESENTATIVES

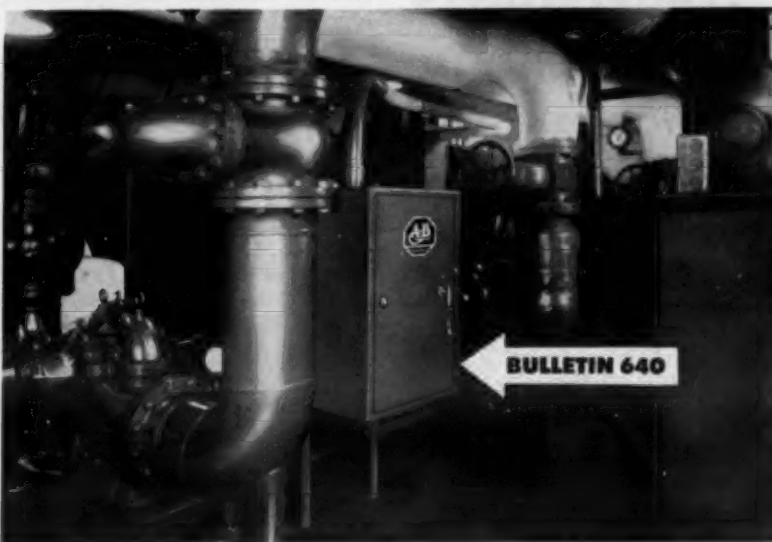
As an industry service, the NEWS maintains a file of manufacturers' representatives—serving the air conditioning, refrigeration, heating, and allied fields. Territories cover all sections of the United States and some foreign countries.

If you are a manufacturers' representative, who wants to change or add to your line, we urge you to take advantage of our special service. If you are already listed with the NEWS, and want to bring your listing up-to-date, you also should send us the following information today (Please use your letterhead):

1. Complete name of your company or individual, address, and phone number.
2. Lines and products now carried (not necessary to list manufacturer represented).
3. Products and lines you want to add.
4. Territory covered by states, regions, or countries.

If you are listed with us, bring your listing up-to-date. If you are not listed, send the above information now to:

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Box RP-A, 450 West Fort Street
Detroit 26, Michigan

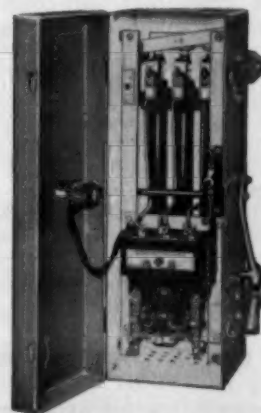


How BULLETIN 640 "Stepless Starters" prevent lamp flicker . . .



The Sign of
QUALITY
MOTOR CONTROL

By compressing graphite disc resistors . . . which no other starters have . . . Bulletin 640 starters provide stepless acceleration . . . there is no sudden current inrush to cause lamp flicker. This velvet smooth starting prevents jolts to gears, belts, and connected machinery. Operation is simple . . . just lift operating lever slowly and motor comes up to speed where full voltage is applied without opening circuit between motor and line. Send for descriptive Bulletin 640.



Bulletin 640—Ratings to 200 hp, 220-440-550 volts. Size 2-35 shown above.

Allen-Bradley Co.
1313 S. First St., Milwaukee 4, Wis.
In Canada—
Allen-Bradley Canada Ltd., Galt, Ont.



Now Representing...

Janitrol Heating & Air Conditioning Div., Surface Combustion Corp.—Appointment of **THOMAS J. WARD** as sales representative has been announced. He will represent the Janitrol line in the central Ohio area. He has previously been associated with **FAVRET FURNACE CO.** in Columbus, Ohio, the **KUEMPEL CO.** in Cincinnati, and **REMINGTON CORP.**

Day & Night Mfg. Co.—**JAMES B. CLOW & SONS, INC.**, Chicago, has been named distributor for the firm's complete line of residential and light commercial air conditioning equipment, both remote type and self-contained.

Servel, Inc.—Appointment of four manufacturer's representatives for the electric "Wonderbar" refrigerator has been announced.

NEUBERG SALES SERVICE, INC., New York City, will cover Connecticut, Delaware, Maryland, and Virginia, Washington, D. C.; 34 counties in eastern Pennsylvania, and New York and New Jersey except for nine New York and six New Jersey counties in New York City metropolitan area.

NEUHAUSER & WROBLE of Chicago will handle, Illinois, Indiana, Missouri, all of Kansas except 22 western counties, Scott county in Iowa, 44 counties in western Kentucky, and 36 counties in southern Wisconsin.

GAYNOR SALES AGENCY, St. Paul, will cover Minnesota, North and South Dakota, all of Iowa except Scott county, all of Nebraska except Cheyenne and Kimball counties, and 35 counties in the northern half of Wisconsin.

M. F. CARR, JR., Cascade, Colo., will handle Colorado, Montana,

Wyoming, 22 counties in western Kansas, and Cheyenne and Kimball counties in southwestern Nebraska.

TOT Towers, Inc. (Houston, Texas)—Appointment of **AUTHORIZED REFRIGERATION PARTS CO.** of St. Louis as distributor for eastern Missouri and western Illinois has been announced by this cooling tower manufacturer.

Revco, Inc.—Three distributor appointments have been made known by the firm.

J. GEO. FISCHER & SONS of Saginaw, Mich. will distribute "Bilt-Ins" and freezers in that area.

GRAYBAR ELECTRIC will cover three additional markets—Omaha, Neb., El Paso, Texas, and Shreveport, La.

COFFIN & WIMPLE, INC. of Bangor, Me., with a branch in Portland, will cover Maine and fringe counties in Vermont.

Warren Co., Inc.—Seven new distributors have been named by the company.

AKRON REFRIGERATION CO. under Frank V. Giles has been appointed in the Akron, Ohio area.

SLADE'S BUTCHER SUPPLY, headed by D. C. Slade, was named in Albuquerque, N. M.

GARO SHOWCASE & FIXTURE CO. under John Garo has been appointed in Fresno, Calif.

GRAHAM REFRIGERATION SALES & SERVICE, headed by Edward F. Graham, Jr., was appointed in McDonald, Pa.

ACE O'HARA REFRIGERATION CO., INC. was appointed in Phoenix, Ariz.

GREAT WESTERN MORTGAGE CO. was named in Sacramento, Calif.

W. H. BINTZ CO. has been

named in the Salt Lake City area.

Perfection Industries, Div. of Hupp Corp.—**RAYMOND ROSEN EQUIPMENT CO.**, Philadelphia, has been appointed exclusive wholesaler for Perfection's warm air residential gas and oil-fired furnaces in 11 counties in New Jersey, eight in Pennsylvania, nine in Maryland, two in Virginia, and three in Delaware. The company is a subsidiary of Raymond Rosen & Co., Inc.

Virginia Smelting Co.—**JOHN E. WILSTRUP** has been promoted to field representative in the Texas-Louisiana territory, with headquarters in Houston. He moves up from refrigeration sales at the home office.

Binks Mfg. Co.—**WILLIAM R. FUNK CO.** has been appointed exclusive Binks cooling tower sales representative in Philadelphia and its metropolitan area. The firm will also represent Binks in Wilmington, Del., Atlantic City and Trenton, N. J., and Harrisburg, Pa.

O. A. Sutton Corp., Inc.—Appointment of **SYLVANIA SALES CORP.**, Boston, as distributor for Vornado room air conditioners and air circulators has been announced by the firm's Consumer Appliance Div.

TOM HOLLOWAY DISTRIBUTING CO., Memphis, Tenn., has been named distributor for Vornado auto air conditioners. Holloway has been a distributor of Vornado room air conditioners for several years.

La Crosse Cooler Co.—**HARRY A. OSBORNE** has been appointed manufacturer's representative in North Carolina and Florida for the company's Vending Machine Div. His headquarters are at 315 Lexington Rd., Mocksville, N. C.

Temprite Products Corp.—**N. K. PORTER & CO.**, Pontiac, Mich., manufacturer's representative for Temprite in Michigan, will now also represent the company in Ohio.

Tranter Mfg., Inc.—**A. E. HUTSON**, Rochester, N. Y., has been appointed "Kold-Hold" sales representative for western New York. For the last two years, he has been distributor for the complete line of refrigerated cabinets for Anheuser-Busch, Inc. in all of New York state outside New York City.

Gibson Refrigerator Co., Div. of Hupp Corp.—**FARGO GLASS & PAINT CO.** has been named new full line distributor in North Dakota and certain counties of South Dakota, Montana, and Minnesota, replacing the Larson Co.

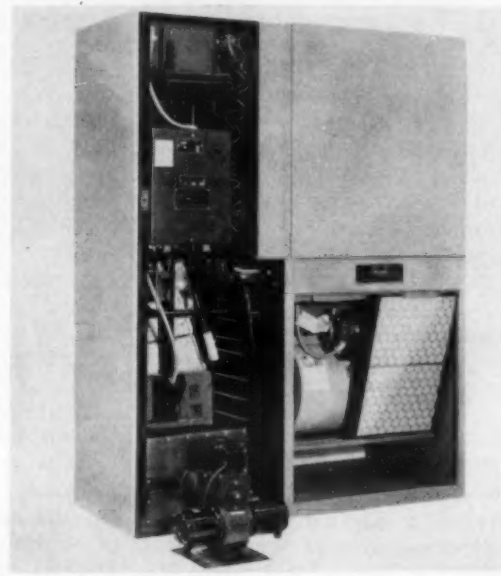
Heating & Air Conditioning Div., Modine Mfg. Co.—**ASSOCIATED THERMAL PRODUCTS, INC.**, New York City, has been named New York representative. Modine will continue to maintain regional offices in New York City.

Amana Refrigeration, Inc.—**EWING & GRAY, INC.**, North Minneapolis, has been named full line distributor for 71 counties in Minnesota and 20 in western Wisconsin.

L.O.F. Glass Fibers Co.—**J. WALTER WHITACRE, JR.** has been assigned to the southeastern region as a field representative. He formerly was a salesman with R. W. Nichols Co., Cleveland.

Diehl Mfg. Co. (Somerville, N. J.)—**THOMAS R. DONNELLY** of

Oil-Fired Home Air Conditioner



SIDE panels of Servel's new oil-fired heating-cooling unit have been removed in this photo to show the compactness of the equipment and easy accessibility of controls, blower, filter, etc. The air-atomizing oil burner used for both heating and cooling was developed by an affiliate of Standard Oil Co. of New Jersey.

Pittsburgh has been appointed sales agent in the western Pennsylvania-Wheeling, W. Va. area.

Thatcher Furnace Co. (Garwood, N. J.)—**O. S. TYSON & CO., INC.** of New York City has been named to handle advertising, sales promotion, and publicity for the firm.

Servel, Inc.—Appointment of four gas companies as utility-distributors for gas refrigerators was announced by the Home Appliance Div. They are:

MONTANA-DAKOTA UTILITIES CO., Minneapolis.

WESTERN KENTUCKY GAS CO., Owensboro, Ky.

CENTRAL INDIANA GAS CO., Muncie, Ind.

IOWA-ILLINOIS GAS & ELECTRIC CO., Davenport, Iowa.

In each case the utility-distributors will be responsible for sales and service of Servel gas refrigerators in communities served by gas lines of the respective companies.

Simpson Electric Co.—Boundaries of two midwest sales territories have been enlarged to include areas formerly serviced by the factory.

R. C. MERCHANT CO. of Detroit will now represent Simpson over all of Michigan, including counties in the extreme southwestern corner which heretofore were covered by the factory.

Territory of **MACPHERSON-THOMAS, INC.** of Indianapolis and Fort Wayne, Ind. has been enlarged to include those counties in the northwestern corner of the state handled in the past by fac-

tory personnel and the firm will now represent Simpson throughout Indiana and Kentucky.

Hubbell Corp. (Mundelein, Ill.)—Appointment of **A. E. EDWARDS CO.** of Seattle as exclusive representative in Washington, Oregon, Idaho, and Montana was announced by this maker of solenoids, pressure regulators, and safety valves. Edwards previously represented York, Frick, and Niagara Blower in this area.

H. W. BAKER CO. of San Francisco has been named sales representative for northern California and Reno, Nev. for this producer of automatic back pressure regulators and solenoid valves for refrigeration, air conditioning, and industrial applications. Baker will carry a representative supply of controls and accessories and repair parts.

Dyfoam Corp. (New Castle, Pa.)—One of three newly-appointed distributors, **LACO APPLI-CATORS**, Jamestown, N. Y. will sell and service southwestern New York state and northwestern Pennsylvania for this manufacturer of "Dyfoam" expanded polystyrene insulation in long slab form. **LACO MCMULLEN CO.** of Erie, Pa. will cover the northwestern Pennsylvania and northeastern Ohio areas. **GEORGE V. HAMILTON CO., INC.**, McKees Rocks, Pa. will sell and service the eastern Ohio, northern West Virginia, western Maryland, and southwestern Pennsylvania areas, and also fabricate Dyfoam pipe covering for sale in these and other areas.

HIGH VOLTAGE

LOW VOLTAGE

Can Be Corrected WITH Acme Electric Buck and Boost Transformers

Too frequently, air conditioning installations do not function properly; motors do not come up to speed, have no torque and windings burn out. This trouble can be traced to low-voltage. And, when motors run hot, insulation chars, windings burn out—look for a condition of excessive voltage. Distribution of power, complicated by inadequate wiring, circuit voltage drop and improper transformer ratios, often result in inadequate voltage supply or excessive voltage at the point of use. Plants and commercial buildings with well engineered wiring systems, report circuit voltages as low as 88 volts, and as high as 152 volts from which 115/120 volt single phase window air conditioners are intended to operate. No wonder so many service calls—so many motor failures. Check your voltage first, then correct to normal with an Acme Electric Buck and Boost transformer.

CORRECT THE VOLTAGE AT POINT OF USE

Compact, inexpensive, these voltage correcting transformers can increase or reduce the available voltage 10%, 13.32%, 20% or 26.64% on single phase circuits as low as 88 volts or as high as 152 volts.

BRING 208 VOLTS UP TO 230 VOLTS WITHOUT REWIRING

For large air conditioning units supplied with 230 volt motors and an available 208 volt source of supply, voltage correction can be made quickly, easily. Available for single phase or 3 phase.

ACME ELECTRIC CORPORATION
923 WATER ST. • CUBA, N. Y.

Acme Electric TRANSFORMERS



Write for Buck and Boost Transformer Catalog for complete specifications and data showing how to select the proper size transformer.

Redmond MICROMOTORS
One of largest stocks in the world!

FACTORY DISTRIBUTORS
MARVIN L. "FERGIE" FERGESTAD
CYCLO-FREEZE CORP.
6318 Cambridge, Mpls. 16, Minn.
West 9-6794



SOLENOID VALVES

with "MULTI-VOLTAGE" coil

Simplify Valve Selection

Reduce Inventory and Parts Stock

For FREE catalog and complete details, phone, wire or write.

Controls Division **JACKES-EVANS MANUFACTURING CO.**
4427 Geraldine Ave. St. Louis 15, Missouri



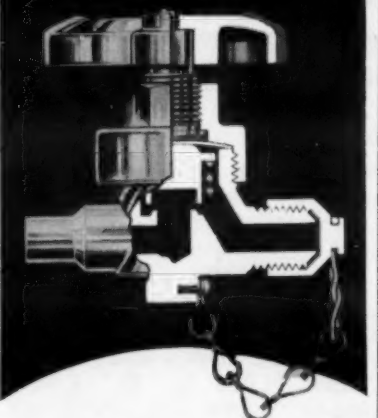
TYPHOON'S Distinguished Salesman
Award was received by John Wilcox, left, Chicago district manager for the firm at a banquet at the Waldorf-Astoria hotel. Presenting the award on the right is former Postmaster General James A. Farley.

Charter Heating Firm

SHREVEPORT, La.—Pioneer Heating, Inc. here has obtained a charter from Secretary of State Wade Martin to deal in air conditioning and heating equipment and electrical appliances. Authorized capital stock is \$100,000.

Precision Designed for REFRIGERATION and AIR CONDITIONING SYSTEMS

THE NEW KEROJET CHARGE, PURGE and DRAIN VALVE



- Costs Less
- Full open height only 2 1/4"
- Seal cap with chain attached
- 2 1/2" diameter handwheel, colored for easy identification

Designed for ease of operation, this new valve features compact packless diaphragms of beryllium copper and stainless steel, for maximum resistance to wear. Rugged forged brass body has integral mounting flange. Maximum operating pressure, 500 p.s.i. Maximum temperature, 200° F. Connection size inlet 3/8" solder connection—outlet 3/8" male flare. See your Kerotest wholesaler today.

Ask for No. R224X1

KEROTEST

KEROTEST MANUFACTURING CO.

2502 Liberty Avenue
Pittsburgh 22, Pa.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

NOTICE TO SMALL FIRMS

Procurement Division, Mobile Air Materiel Area, Brookley Air Force Base, Ala.
INSTALLATION OF AIR CONDITIONING BLDG. S-192 Brookley AFB, Ala.—Job—IFB 01-601-57-454-B—Bid Opening 12 March 57.

Procurement Div., Mobile Air Materiel Area, Brookley Air Force Base, Ala.
INSTALLATION OF AIR CONDITIONING & ALTERATIONS to the Link Trainer & Personal Equipment Room Building 17, Brookley AFB, Ala.—Job—IFB 01-601-57-455-B—Bid Opening 20 March 57.

ARMY

Military Medical Supply Agency, 84 Sands St., Brooklyn, N. Y.
The following items are procured under IFB 62851-77-57—Bid Opening 18 March 57.

COOLER X-RAY FILM PROCESSING UNIT, 30 ea.—(2) PROCESSING UNIT X-RAY FILM 2 COMPARTMENT WITH REAR PANEL, 10 ea.
An additional quantity of 50% is being reserved for Small Business under a partial set-aside for each of above.

Corps of Engineers, Detroit District, 600 East Jefferson Ave., Detroit 26, Mich.
CONSTRUCTION OF CENTRAL HEATING PLANT AND DISTRIBUTION MAINS Wurtsmith Air Force Base, Oscoda, Mich.—Job—IFB ENG-20-064-57-31—Bid Opening 19 March 57. Deposit for plans \$20 per set.

Fort Huachuca Procurement Office, The Army Signal Supply Agency, P.O. Box 748, Ft. Huachuca, Ariz.
INSTALLING HEATING SYSTEM in Post Engr. Shops. Work includes necessary cutting through rock walls, excavation for sump and inspection boxes, trenching, concrete work and furnishing and installing steam boiler with 3,340,000 B.t.u.h. output, condensate pump and tank and necessary valves, conduit, electrical wiring, carpentry, painting, and testing.—Job—IFB SC-36-039-57-417—Bid Opening 18 March 57. Bid forms available from 18 Feb. 57 until supply is exhausted.

U. S. Army, Garrison Boston Army Base, Boston 10, Mass.
REPLACEMENT OF COAL FIRED FURNACES AND HOT WATER HEATERS at Fort Banks Winthrop, Mass.—Job—IFB A1-19-128-57-15(ENG)—Bid Opening 20 March 57.

Central Purchasing and Contracting Office, Fort Polk, La.
The following items are procured under IFB AIV-16-027-57-52—Bid Opening 5 April 57.

REPLACEMENT OF OBSOLETE REFRIGERATION EQUIPMENT, Fort Polk, La. includes: Replacement of CONDENSING UNITS, 90 ea.—INSTALLATION OF SAFETY SWITCHES, 90 ea.—REPLACEMENT OF PANEL COOLERS, 6 ea.—UNIT COOLERS, 6 ea.—FLOOR PANS IN WALK-IN COOLERS, 8 ea.—EXPANSION VALVES, 5 ea. Plans, specifications, and bid sets available.

Fort Huachuca Procurement Office, the Army Signal Supply Agency, P.O. Box 748, Fort Huachuca, Ariz.

Purchasing Agents Resist High Prices; See Abundant Supply of Most Materials

NEW YORK CITY—More resistance to higher prices is being shown by purchasing agents, the National Association of Purchasing Agents' business survey indicated.

Purchasing executives are ordering only far enough into the future to insure their companies getting needed materials. They're trying to keep inventories at current levels, it was added.

NAPA business survey committee in its February poll also said many purchasing agents predicted most materials "will be in abundant supply this year, with competition developing in areas where it has not been present for some time."

Production, orders, and employment were at least steady, the survey found. Indications are that purchasing officials believe prices may not rise much more in the months just ahead.

Of those polled, 27% said February output was higher than January, 55% reported it the same, 18% said it was down. On orders, again 27% reported the February pace topped January, while 50% said it was the same, and 23% disclosed a decline. On the whole, year's employment outlook, 65% said they expected the 1957 level to equal last year, 26% predicted a reduction, and 9% saw an increase.

Statistics for February showed little change from the preceding month, the group said; 17% indicated employment was up, 64% reported no change, and 4% a decline.

Declines in copper, steel scrap, and rubber were cited as indications of pressures that have built up over prices. Availability of materials this year, together with wage increases already negotiated for 1957 will squeeze profits of many concerns, the survey continued.

Inventory reports were almost

the same, statistically, as for January, the committee said. It found "no apparent desire" to build stockpiles of materials as a hedge against future price increases, nor "any concerted efforts to reduce them."

It did discern a "continued shortening on lead time on production materials." Of the reporting members, 70% are now keeping their coverage within 60 days ahead, with the number within that group who are keeping within 30 days lead time increasing 30% in February from 24% in January.

Besides copper and brass, it was learned, items declining in price included steel scrap, rubber, aluminum extrusions, lumber, and print cloth.

Furnishing labor, equipment, and material for INSTALLATION OF LOW PRESSURE STEAM HEATING SYSTEM in BOQ Bldg. 4025. Work includes removal of existing gas fired space heaters and installation of 30 HP self-contained fully automatic, scotch-marine Type Gas fired boiler designed for 30 p.s.i.g. and operate at 10 p.s.i.g., including necessary appurtenances and alterations to building—Job—IFB SC-36-039-57-420—Bid Opening 1 April 57.

NAVY

Navy Purchasing Office, 4th & Independence Ave., Washington, D. C. Attn.: SPF-1A.

AIR CONDITIONING UNIT, PORTABLE TRAILER, mounted shipboard model nr-2, Spec. MIL-A-19144(AER)—33 ea.—IFB 600-1438-57—Bid Opening 3 April 57.

AIR CONDITIONING UNIT, Trailer mounted, shore based, Model nr-1, Spec. MIL-A-18169A(AER)—63 ea.—IFB 600-1437-57—Bid Opening 3 April 57.

Officer in Charge, Navy Purchasing Office, 180 New Montgomery St., San Francisco, Calif.

REFRIGERATOR, DOMESTIC, Size 10 Fed. Spec. AA-R-211C—76 ea.—IFB 220-7687-57-P2B—Bid Opening 19 March 57.

FREEZER, Chest Type, 10-cu. ft. Westinghouse Electric Corp. or equal—50 ea.—IFB 220-7345-57-P2B—Bid Opening 19 March 57.

AIR FORCE

Procurement Division, Holloman Air Force Base, N. M.

EVAPORATIVE COOLER reconditioning at Holloman Air Force Base, New Mexico consisting of completely reconditioning a total of 302 evaporative coolers varying in size from 3,000 to 10,000 c.f.m. Cooling Units will be repainted, new pumps, belts, and pads will be installed by the contractor—Job—IFB 29-600-57-141B—Bid Opening 18 March 57.

Directorate of Procurement and Production, Gadsden Air Force Base, Gadsden Air Force Depot, Gadsden Air Force Station, Gadsden, Ala.

PIPE, STEEL, air conditioning and heating 4 in. dia. Spec. MIL-P-551A dated 1 March 56 appl. M1941 tent stove, straight nested, 24 in. long, stock No. 4520-202-7884—55,154 ea.—IFB 01-608-57-70B—Bid Opening 18 March 57.

REFRIGERATOR, MECHANICAL, Chest Type, Portable, Rivet Storage, in AC/W Spec. MIL-R-4582A(USAF) dated 12 Oct. 56, Stock No. 4110-NL25660—68 ea.—IFB 01-608-57-73B—Bid Opening 22 March 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y.

NEW HEATING BOILER, etc. at U.S.P.O., Clyde, N. Y.—Job—IFB 2PC-7-818(ADVT)—Bid Opening 3/25/57.

General Services Administration, Business Service Center, Region 3, 7th & D St., S.W., Washington 25, D. C.

REPLACING HEATING SYSTEM, Treasury Building, Washington, D. C.—Job—IFB GS-R-3-3944—Bid Opening 3-21-57.

General Services Administration, Business Service Center, Region 3, 7th & D St., S.W., Washington, D. C.

REFRIGERATION EQUIPMENT, various items—IFB FN-3H-7462-A—Bid Opening 3-21-57.

General Services Administration, Region 3, Business Service Center, 7th and D St., S.W., Washington 25, D. C.

The following items are procured under IFB R2D-83921-R—Bid Opening 3-18-57.

AIR CONDITIONING UNIT, Package Type, Capacity not less than 90,000 B.t.u./hr., 1 ea.—20 TON COOLING TOWER WITH PUMP, 1 ea.

CONTRACTS AWARDED THROUGH MARCH 1, 1957

General Services Administration, Region 3, Business Service Center, 7th & D St., S.W., Washington 25, D. C.

Air Conditioning Units (IFB R2D-82751-R)—400 ea.—\$51,200—The Mathes Co., Inc., 1501-29 E. Broadway, P.O. Box 1408, Fort Worth, Texas.

Headquarters, U. S. Marine Corps, Commandant of the Marine Corps, Washington 25, D. C.

Commissary Equipment: Dairy, Ice Cream, Meat, Produce, and Frozen Food Display Cases; Packaging Conveyor Table; Air Conditioning Unit; Cooler; Cooling Tower and Walk-In Type Freezer, NOM-69679 (Camp Lejeune, N. C. IFB 5422-57)—12 items—\$7,263—Bodner-Shames, Inc., 1801 Monticello Ave., Norfolk 10, Va.

Navy Purchasing Office, 180 New Montgomery St., San Francisco 5, Calif.

Window Type Air Conditioners (Request No. 220-6884-57) Contract N220(228)-5072B—3 items—\$82,000—International General Electric Co., 235 Montgomery St., San Francisco, Calif.

Quartermaster Purchasing Agency, Columbus General Depot, U. S. Army, Columbus 15, Ohio.

Refrigerator, mechanical, Household, L.H. RH IFB QM 33-031-57-354 (DA 33-031-QM-19815)—2,473 ea.—\$387,024—Frigidaire Sales Corp., 300 Taylor St., Dayton 1, Ohio.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Ill.

Water Coolers (IFB CHN-2506)—479 ea.—\$47,365—Westinghouse Electric Corp., 1625 K St., N.W., Washington 6, D. C.

Officer in Charge of Construction, District Public Works Officer, Fifth Naval District, Norfolk 11, Va.

Addition to Central Heating Plant, Courthouse Bay, Marine Corps Base, Camp Lejeune, N. C. (IFB NBY-7626)—Job—\$114,750—Little Construction Co., Inc., P. O. Box 1063, Charlotte, N. C.

Shelby Air Force Depot, Wilkins Air Force Station, Shelby, Ohio.

Air Conditioners Type MA-3, 182 ea., \$2,226,271—Air Conditioners Type MA-8, 19 ea., \$245,100—Engineering Data, \$1,840—Specs. for Item, 1 lot, \$3,150—Total \$2,476,362—(PR MH-654935, 698982)—Recony Corp., 150 Nassau St., New York 38, N. Y.

Purchasing and Contracting Office, Bldg. 241, Fort Bliss, Texas.

Rehabilitation of Evaporative Coolers, William Beaumont Army Hospital, Fort Bliss, Texas—Job—(IFB AIV 41-014-57-102)—\$68,266—Southwestern Sheet Metal Works, Inc., 2001 Magoffin Ave., El Paso, Texas.

District Public Works Officer, Sixth Naval District, Building 13, U. S. Naval Base, Charleston, S. C.

Air Conditioning and Ventilating for Buildings 620, 910, 286, 623, 634, 643, 645, 650, 670, 762, and 766, Marine Corps Recruit Depot, Parris Island, S. C. NBY-7879—Job—\$42,600—Mock Plumbing Co., 925 East 37th St., Savannah, Ga.

"King Zeero's" Sweet Water ICE BANKS offer ICE - CONCENTRATED Refrigeration for Air Conditioning

CONTINUOUS RIFLED GALVANIZED COILS 32° - 34° COLD EXPANSION VALVE CONTROLLED ICE WATER DESIGNED FOR USE WITH: FREON METHYL CHLORIDE—AMMONIA

The "King Zeero" ICE BANK is designed for air cooling in Churches, Mortuaries, Theatres, Offices, Stores, Auditoriums, Factories, Clubs, Restaurants, etc. Ice Banks may be added to existing systems for increased capacity. The "King Zeero" ICE BANK is designed to deliver 32° to 34° F. sweet water for recirculation through secondary equipment. Design temperatures may be obtained with mixing valves.



MODEL A-7
"KING ZEERO"
ICE BANK

CAPACITIES - 500 lbs. to 30,000 lbs. (72,000 B.T.U.'s to 4,320,000 B.T.U.'s) in a single unit. Multiple units may be installed.

THE KING ZEERO COMPANY

4302 W. Montrose Ave., Chicago 41, Ill.

CONSIDER THESE ADVANTAGES--

- DIRECTED COURSE OF WATER travels with "built-in" agitation.
- NO MECHANICAL AGITATION REQUIRED.
- LARGE WATER COMPARTMENTS spaced on 11" and 12" centers.
- 33% EXTRA ICE CAPACITY safely attained with up to 300 G.P.M. water flow.
- ICE IS "BURNED OFF" PLATE COILS progressively, exposing prime and secondary surface for maximum flash cooling capacity.
- ICE THICKNESS automatically controlled - eliminates "freeze ups."
- 94 SIZES to fit space requirements. Other designs for special applications.

MAIL COUPON TODAY

King Zeero Co., 4302 W. Montrose Ave., Chicago 41, Ill.

☐ Please send me your new ICE BANK Catalog.

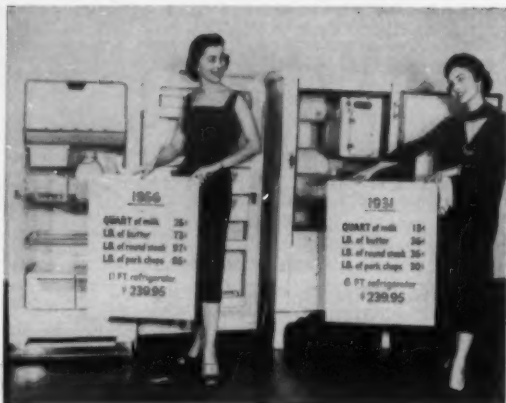
Name _____

Address _____

City _____ State _____

1931 Food Costs Up In '56, But Price of Refrigerators Drops

MODELS compare rising cost of food with descending price of refrigerators, using units made by Norge in 1956 (left) and 1931. Butter, round steak, and pork chops are more than double in cost, but an 11-cu. ft. refrigerator now is the same price as a 6-ft. unit then. In modern dress, Beverlee Wilson eyes the Jean Harlow "draped" gown worn by Margie Kraus. A 1931 creation, the gown carried a \$50 price tag 25 years ago, but would probably sell for \$110 today.



Hatfield, Kennedy Named by Frigidaire

DAYTON—Two new executive appointments in the appliance sales department of Frigidaire Div., General Motors Corp., were announced by C. H. Menge, the company's general sales manager.



R. L. Hatfield

Roy L. Hatfield, veteran Frigidaire sales executive and former manager of the company's Birmingham branch, has been named refrigerator and food freezer sales manager.

Terry D. Kennedy, former merchandise manager of Crosley-Bendix Div. of Avco Mfg. Corp., has been appointed laundry product sales manager of Frigidaire.

Hatfield has been associated with Frigidaire for 26 years. He served as appliance sales manager of the southeastern region and zone sales manager of the appliance sales department.

Tennessee Bill Would Postpone Inside Latch Law's Effective Date

NASHVILLE, Tenn.—A bill has been introduced in the Tennessee legislature to postpone the effective date of a 1955 act requiring new refrigerators to be equipped with safety devices on the inside.

The 1955 act sponsored by Rep. Ben Routon would have required all new refrigerators and other air-tight or semi-tight containers to be equipped with these devices after March 1 of this year.

The proposed amendment would make the act take effect "one year and 90 days after the publication of the Federal Commercial Standard as prescribed by the Secretary of Commerce of the U. S. under the provision of Public Law 930 of the 84th Congress of the United States of America."

Distributor Reorganizes, To Operate with New Lines Added

CINCINNATI—Modern Distributing Co., former Crosley and Bendix distributor in this area, has reorganized and will continue in operation, it was announced.

Earlier reports suggested the firm would cease operations, but Modern officials emphasized this was not the case.

Formerly owned by Oscar Schirman and L. T. Patterson,

the firm has been reorganized after Patterson's interest was purchased. Officers are Schirman, president; Phil Pugh, vice president-sales; and Allan Ahrens, vice president-kitchen equipment sales.

New lines have been added by taking on Amana refrigerators and air conditioners, formerly handled in this area by Graybar Electric. V-M changers

and Viking fans also have been added, it was disclosed.

In addition, the firm carries American Kitchens, Brammer Mfg. Co. wood kitchens, "Deep-freeze" chest freezers, and Superflame gas and space heaters.

Modern's territory extends through 27 counties in Indiana, Kentucky, and Ohio, including greater Cincinnati.

New Book
Reveals
Untapped
Profit
Potential

Commercial Packaged Air Conditioners At Work

A new, interesting and authoritative book, 70 pages of information and illustrations covering the vast potential market open to commercial air conditioning. Read articles about:

- Sales Potentials and Problems
- How To Sell at a Profit
- Specific Installation Applications
- Tips to Salesmen
- Rental Plan Proves Value
- Level Sales Curve Is Possible
- New Applications—New Sales

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AIR CONDITIONING & REFRIGERATION NEWS
450 West Fort Street, Detroit 26, Michigan

WHAT... WHEN... WHERE

— A Guide to Coming Events of Interest

National Electrical Mfrs. Association (NEMA) Meeting
March 11-14, Edgewater Beach hotel, Chicago.

Refrigeration Service Engineers Society (RSES)
Educational Forum
April 5-7, Sheraton-Palace hotel, San Francisco.

Gas Appliance Mfrs. Association (GAMA) Annual Meeting
April 8-10, The Greenbrier, White Sulphur Springs, W. Va.

National Warm Air Heating & Air Conditioning Association (NWAHACA) Committee Meetings, Technical Conference
April 29-May 2, Hotel Cleveland, Cleveland.

Air-Conditioning & Refrigeration Institute (ARI)
Board Meeting and Annual Meeting
May 5-8, The Homestead, Hot Springs, Va.

National Restaurant Association (NRA)
Convention and Exposition
May 6-10, Navy Pier, Chicago.

Mechanical Contractors Association of America (MCAA)
Annual Meeting
May 7-10, Hotel Fontainebleau, Miami Beach, Fla.

American Society of Refrigerating Engineers (ASRE)
Annual Meeting
June 2-5, Hotel Fontainebleau, Miami Beach, Fla.

National Warm Air Heating & Air Conditioning Association (NWAHACA) Summer Convention
June 5-7, Fairmont hotel, San Francisco.

Western Air Conditioning, Heating, Ventilating, and Refrigeration Exhibit and Conference
May 4-8, Shrine Exposition Hall, Los Angeles

American Society of Heating & Air-Conditioning Engineers (ASH&AE) Regional Meetings:

May 2-4, Region 5, New Orleans

May 6-7, Region 4, Los Angeles

May 10, Region 6, Tulsa

May 13, Region 3, Kansas City

Summer Home Furnishings Market
June 17-28, American Furniture Mart, Merchandise Mart, Chicago

Open Air Conditioned Market

NEW ORLEANS—Complete-turing the most modern frozen ly air conditioned, a new Na- food cases, the new market is tional Food Store supermarket 100% self-service. Building pro- has opened in the Gentilly vides 14,000 sq. ft. of floor Woods Shopping Center. Fea- space.

NEED DRIERS?
wait till you see
what's coming
from
MUELLER
BRASS CO.



B. t. u. Ratings - -

(Concluded from Page 1, Col. 2)
annual meeting May 6-8 in Hot Springs, Va.

At the present time there is no chance that any proposal for checking ratings will involve any kind of a "pre-certification" program of testing and rating by an independent laboratory, according to sentiments expressed by ARI officials.

Rather, some sort of an orderly procedure for testing of a unit by a competitor will probably be established, and will have to be adhered to before any complaints will be given serious consideration.

The ARI, in an official statement on the situation, has said that "when all the tumult and shouting is over, the program appears stronger and seems to be gaining wider acceptance, not only within the industry, but with the general public."

"The situation may have been touched off by a statement made by George S. Jones, Jr., ARI managing director, that the rat-

would be some flare-backs when the first group of ratings was published, but this is almost an inevitable development during the shakedown period for a voluntary standard, and I felt that it gives no cause for alarm.

"We believe that the test procedure outlined in ARI 110-56 on the basis of B.t.u. per hours is the best and equitable procedure for the industry as well as the public.

"The condition of 95° F. was arbitrarily set as a measuring point for determining capacity, because we believe it would be extremely impracticable to have a manufacturer publish cooling capacity ratings for every temperature from 70° on up. We feel that the capacity a unit develops at 95° is a good and valid measure of a high load.

"On the other hand, publication of ratings on a square footage basis would be utterly impossible because of the variables involved—geographic location, location of the unit in the room, location of the room with respect to the sun, insulation, and others, including the use of the room and the number of occupants.

"If errors in ratings develop, they will not be intentional, in my opinion. Certainly this is a far superior situation to that under which a variety of meaningless, non-descriptive terms were used in the guise of accurately representing cooling capacities.

"Industry is recognizing its responsibilities, to itself, to dealers, and to consumers. Once B.t.u.'s are accepted and cooling capacities are described in readily understandable, accurate terms, producers and retailers can get on with the business of selling their air conditioners on the basis of many features beyond their present preoccupation with cooling capacity."

Meanwhile, one more manufacturer has filed with ARI the ratings on a part of its line of room units, and will provide the remainder as soon as tests are completed. The newcomer to the list is Whirlpool-Seeger Corp., one of the original 22 companies who accepted the program at the September, 1956 meeting where the program was launched.

Whirlpool-Seeger To Issue B. t. u. Ratings

WASHINGTON, D. C. — A 17th manufacturer of room air conditioners has joined the list of makers who have either published or provided the Air-Conditioning & Refrigeration Institute with the ratings of their 1957 room units under the ARI program for testing and rating under ARI Standard 110-56, it was announced by Geo. S. Jones, managing director.

The latest manufacturer to provide ARI with its ratings is Whirlpool-Seeger Corp., which made available the ratings on three of its models, with the assurance that ratings on the others, in terms of British thermal units per hour, would be provided as soon as testing and rating could be completed.

Whirlpool-Seeger's ratings on three models are: S-7100-3, 9,700 B.t.u./hr.; S-7100-2, 8,600 B.t.u./hr.; and S-7150-3, 12,800 B.t.u./hr.

The NBBB last week sent to its 108 local bureaus a letter advising them that any air conditioning advertisement that imply cooling capacity with such terms as tons or horsepower should also include B.t.u. ratings.

ings of room air conditioners released by the Institute during February are those provided by the manufacturers themselves, and that ARI has no established procedure for checking such ratings or guaranteeing their accuracy at this time.

"Jones said in the New Orleans interview that he was raising no question as to the accuracy of the ratings, but because ARI is simply repeating information supplied to it, or published in manufacturers' literature, the Room Air Conditioner Section felt that the statement should be made.

"He added that continued consideration is being given to establishment of some method of certification of the accuracy of published ratings, but that a procedure has not yet been worked out."

Commenting on the "rumors of dissatisfaction" Jones said: "We anticipated that there

More Pictures from the Air Conditioning Show



KEY NO. G-3249

NEW MODELS in its line of self-contained packaged air conditioners were a part of the huge Trane Co. exhibit. The firm has added 10-hp. and 15-hp. models to its modernized and expanded line of deluxe packaged units.



KEY NO. G-3250

CERAMIC INSERTS, FOR BETTER WATER DISTRIBUTION, are featured by J. F. Pritchard and Co. of California in their "LO-LINE" cooling tower.



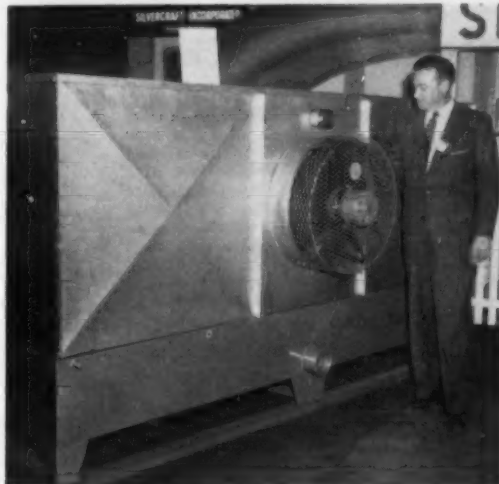
KEY NO. G-3251

GROUPED AROUND new compact, high velocity "Precipitron" (model PF—cabinet type) shown by the Sturtevant Div. of Westinghouse Electric Corp. are R. R. Trochuck, air cleaning products specialist, and V. H. Grethel, sales engineer, both of Westinghouse; C. G. Kerr, Kent Engineering Co., Montreal; and Walter Strickland, Filters, Inc., Atlanta.



KEY NO. G-3252

COMPLETE OIL BURNER control with mercury sensing tube to replace the usual bi-metal helix is shown off at the White-Rodgers Co. booth by A. E. Petersen, regional manager.



KEY NO. G-3253

REDUCED weight and power consumption are claims made for this 30-ton counterflow type cooling tower shown by Silvercraft, Inc. Shipping weight is 650 lbs.



KEY NO. G-3254

STORY ON NEW WATER-TO-AIR HEAT PUMP by American Coils Co. is given to Leonard P. Cohron (l.), of Cincinnati Gas and Electric Co., by Pete Hatcher, sales manager.



KEY NO. G-3255

RIGHT: New 5-hp. compressor for "Freon-22" is center of interest in Copeland Co. exhibit. (L. to r.), L. A. Ost, of Minneapolis; R. G. Berg, Copeland vice president; F. E. Jernberg, and Elmer K. Peterson, Texas wholesaler.

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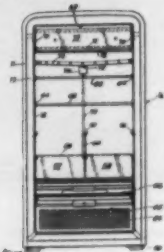
MATERIAL AND LABOR OF CRATING, UNCRATING AND EXCESS WEIGHT.

NORTH AMERICAN VAN LINES, INC. CRESTON DIVISION, DEPT. R, FORT WAYNE, INDIANA

PATENTS

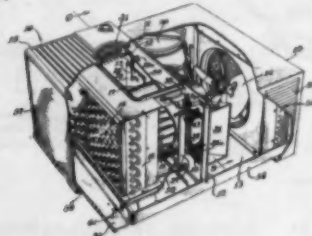
Week of November 6 (Concluded)

2,769,319. TWO TEMPERATURE HOUSEHOLD REFRIGERATORS. Carl F. Aising, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., St. Joseph, Mich., a corporation of Delaware. Application Feb. 18, 1952, Serial No. 272,175. 11 Claims. (Cl. 62-116.)



1. A refrigeration system comprising an insulated cabinet having a below-freezing zone cooled by first below-freezing coils and a food storage zone cooled by second coils communicating without restriction with said first coils in series, to cool said second coils only with refrigerant from said first coils, a motor compressor comprising a motor, a compressor and a housing enclosing the motor and compressor, a condenser and a restrictor connected in this order to said first coils, said second coils communicating with the suction inlet of said compressor and said compressor having an oil sump, a charge of oil in said sump and a charge of refrigerant of a type miscible with and absorbed by said oil in said system, a portion of said refrigerant being absorbed in said oil at ordinary ambient temperatures, a larger portion being absorbed at lower ambient temperatures, and a lesser portion absorbed higher ambient temperatures, the volumes of said coils, said oil charge and said refrigerant charge being proportioned so that the amount of refrigerant not absorbed and available for cooling said first coils is sufficient to maintain a below-freezing temperature in the below-freezing zone at the highest ambient contemplated, and the amount of refrigerant available for said second coils is sufficient for cooling the food storage zone at a suitable above-freezing temperature at ordinary ambients, and is sufficient for increasing proportionately the cooling effect of said second coils at higher ambients due to the release of absorbed refrigerant from the oil at higher ambients, but decreasing the cooling effect of said second coils proportionately at lower ambients, due to greater absorption of refrigerant at the lower ambients, to avoid overcooling or undercooling the food storage space while maintaining below-freezing temperatures in the freezing zone, the said second coils being mounted on the outside of a substantially rectangular sheet metal member of sufficient length to extend from side to side inside the cabinet at the top of the cabinet, and to extend forwardly on each of the side walls of the cabinet to a point adjacent the front of the cabinet, said member being spaced from the inside of the cabinet by said second coils, leaving the rest of the cabinet space substantially open for storage of articles to be refrigerated in said food storage zone.

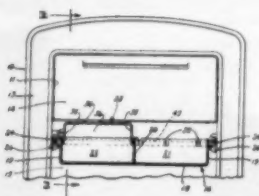
2,769,320. DAMPER CONTROL MECHANISM FOR AIR CONDITIONING APPARATUS. Donald Kuhlenschmidt, Newburgh, and Curtis O. Fowler, Spurgeon, Ind., assignors, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application March 30, 1954, Serial No. 419,862. 8 Claims. (Cl. 62-129.)



1. A room air conditioning unit, comprising: a cooling element; means providing flow of a stream of air from the room in to the unit, in contact with said cooling element, and then from the unit into the room; the unit having an air inlet for admitting air from outdoors to said air stream, an outlet for exhausting air from said stream, and an inlet for admitting air from the room; first, second and third dampers actuated to closed position by spring biased hinges, and controlling the said outdoor air inlet, the said exhaust outlet, and the said room air inlet, respectively; said first and second dampers being biased to closed position and said third damper to open position; means operatively connect-

ing said third damper to said second damper for conjoint movement therewith; means for actuating said first and second dampers including, a crank member having a portion thereon which upon rotation of the crank in one direction engages said second damper in an operative relationship, and motion-transmitting linkage operatively connecting said first damper to said crank member; said actuating means being fashioned and arranged so as to permit said crank to be rotated in one direction to engage and open said second damper without opening said first damper, and to be rotated in an opposite direction to open said first damper and simultaneously effect the disengagement of said portion of said crank from its operating relationship with said second damper so as to permit said latter damper to return to a biased closed position conjointly with the opening of said third damper.

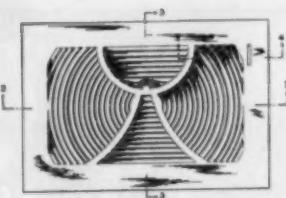
2,769,677. SLIDING MEAT KEEPER. Ider C. Courson, Glenside, and Raymond A. Mason and Harold C. Gramlich, Philadelphia, Pa., assignors to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application March 10, 1954, Serial No. 415,382. 3 Claims. (Cl. 312-308.)



1. A chiller-drawer for refrigerator cabinets, said drawer comprising: a tray having a bottom wall, upstanding side walls, and an intermediate wall, defining a two compartment open-topped tray, said tray also including a pair of upper and lower channel forming flanges, extending inwardly from adjacent the top edge of one of said side walls, the upper flange being shorter at the front than the lower flange, and a second and similar pair of flanges positioned adjacent the top edge of said intermediate wall and extending toward said first pair; and a cover enclosing one of said compartments, said cover comprising a top wall, depending side walls, and a discontinuous flange extending outwardly from each of opposing side walls thereof, the front portion of each of said cover flanges being lower than the remaining portion, its lower flange portions, when said cover is assembled with said tray, resting upon the lower tray flanges and its upper flange portion resting upon the upper tray flanges, thereby slidably supporting said cover over said one compartment in a manner whereby the lower portion of said cover flange passes between said tray flanges to retain said cover engaged with said tray when said cover is moved rearwardly relative to said tray.

DESIGNS

179,140. AIR DIFFUSING REGISTER. Frank C. Klesner, St. Paul, Minn., assignor to Midco Register Corp., St. Paul, Minn. Application Feb. 15, 1956, Serial No. 40-176. Term of patent 14 years. (Cl. D62-4.)



179,146. WALL MOUNTED REFRIGERATOR. Robert E. Munz, Jefferson-town, and William F. Saenger, Louisville, Ky., assignors to General Electric Co., a corporation of New York. Application Nov. 29, 1955, Serial No. 38,084. Term of patent 14 years. (Cl. D67-3.)

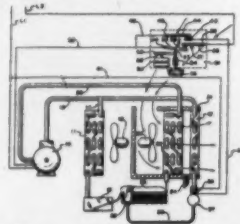


179,147. REFRIGERATOR CABINET. Robert E. Munz, Jefferson-town, and William F. Saenger, Louisville, Ky., assignors to General Electric Co., a corporation of New York. Application Nov. 29, 1955, Serial No. 38,085. Term of patent 14 years. (Cl. D67-3.)



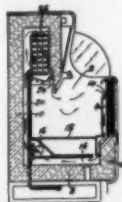
Week of November 13

2,770,100. AIR CONDITIONING CONTROL. Estel C. Raney, Fort Lauderdale, Fla., assignor to Ranco Inc., Columbus, Ohio, a corporation of Ohio. Application June 21, 1954, Serial No. 437,971. 5 Claims. (Cl. 62-4.)



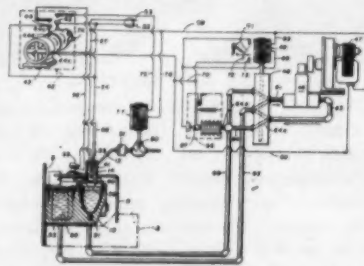
5. In an air conditioning system having a compressor, and an evaporator comprising a refrigerating circuit, electrically controlled means to control operation of the compressor, electrically controlled means to reheat air chilled by the evaporator, control means for both said electrically controlled means comprising two movable switch members movable to control the first and second electrically controlled means respectively, and a thermally responsive expansible element adapted to move one of said switch members upon a predetermined expansion thereof and to move the other of said switch members upon a predetermined greater expansion.

2,770,101. REFRIGERATED DISPLAY CASE. Victor W. Smith, Trenton, N. J., assignor to C. V. Hill & Co., Inc., Trenton, N. J., a corporation of New Jersey. Application June 11, 1953, Serial No. 361,008. 5 Claims. (Cl. 62-4.)



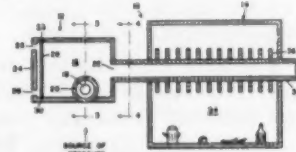
1. A refrigerated self-service display case comprising means forming a display space which is open for access to customers, a support for articles to be refrigerated located within the display space, an air chamber beneath said support, air inlet and outlet channels for said air chamber, a blower located within said case in position to circulate air through said air channels and said air chamber to and from the display space, means in said case for refrigerating the air thus circulated, a compressor for delivering refrigerant to said refrigerating means, electrical circuit means for energizing said blower and said compressor, said circuit means including a contact for establishing "on" and "off" cycles of operation of said compressor and a contact for normally maintaining an "on" cycle of operation of said blower, and a single temperature responsive means located within said case in the path of circulation of air by said blowers for directly moving said contacts, said blower contact being operated when the temperature of the air being circulated by said blower presents an undesired condition of refrigeration in said display space.

2,770,102. AUTOMATIC ICE MAKER. Henry E. Boedter, Cincinnati, Ohio, assignor to Avco Mfg. Corp., Cincinnati, Ohio, a corporation of Delaware. Application March 29, 1954, Serial No. 419,238. 6 Claims. (Cl. 62-7.)



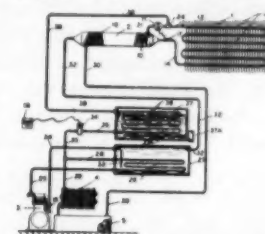
1. Automatic means for freezing liquid into a discrete mass of definite shape designed for installation and use in a refrigerated environment having means for absorbing heat comprising a mold in heat transfer relationship with said heat absorbing means, said mold defining a mold cavity, a non metallic flexible liner flexibly disposed within the mold cavity and secured to said mold in sealing engagement therewith adjacent the top edges of the cavity, said liner being fitted closely within the cavity by evacuation thereof, means for supplying a measured quantity of liquid to said liner when disposed within the mold cavity, a reservoir in heat transfer relationship with the refrigerated environment, working fluid in the reservoir at least equal in volume to the volume of the mold cavity, and pumping means for withdrawing working fluid from the reservoir and forcing it under pressure into the mold cavity beneath said liner for flexing and inverting said liner and ejecting from said liner frozen liquid having substantially the shape of the mold cavity, said pumping means comprising the sole means for ejection of the frozen liquid.

2,770,103. PORTABLE COOLING DEVICE FOR FLUIDS AND FOOD. Harold M. Florea, Wantagh, N. Y. Application March 26, 1954, Serial No. 419,119. 3 Claims. (Cl. 62-96.) (Granted under Title 35, U. S. Code (1952), sec. 266.)



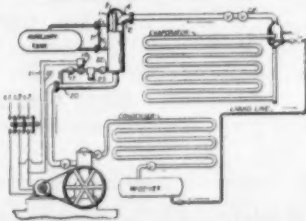
1. A portable refrigerator unit comprising a cylindrical chamber, inlet means tangentially secured to said chamber to supply an incoming air stream whereby an outer heated portion and a coaxial cooled portion are obtained by rotational action of the incoming air stream in the cylindrical chamber, said annularly slotted outlet being adjacent the periphery of said cylindrical chamber, a valve disk rotatably mounted in said chamber adjacent said slotted outlet to control the flow of the heated portion, and axial outlet at the other end of said chamber, a refrigerator chamber connected to said axial outlet and heat exchange means in said refrigerator chamber.

2,770,104. DEFOSTING EVAPORATORS IN REFRIGERATION SYSTEMS. Stanley J. Sweeney, Portland, Ore. Application June 15, 1953, Serial No. 361,470. 1 Claim. (Cl. 62-117.55.)



In a refrigeration system including a compressor for delivering hot compressed gas refrigerant, a condenser connected with said compressor to receive the gas refrigerant therefrom, an evaporator connected between said condenser and said compressor to receive condensed liquid refrigerant from said condenser and return gaseous refrigerant to said compressor, a by-pass connection directly between said compressor and said evaporator and bypassing said condenser to deliver gas refrigerant from said compressor to said evaporator to defrost said evaporator, an accumulator connected between the evaporator and compressor to receive refrigerant from the evaporator and convert it to gas, a coil in the bottom of said accumulator and connected between said compressor and condenser to heat said accumulator by the hot compressed gas delivered by said compressor to said condenser, and an electric heater unit in said by-pass connection for heating the gas to expedite the defrosting of said evaporator.

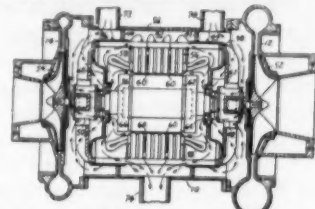
2,770,105. AUTOMATIC REFRIGERANT SLUG DISINTEGRATOR. Roland J. Colton, Port Washington, N. Y. Application March 25, 1954, Serial No. 418,609. 2 Claims. (Cl. 62-117.7.)



1. In a refrigerating system of the compression type having a high side including compression means driven by an electrically controlled prime mover, condensing means and a receiver to receive liquid refrigerant and having an expansion valve connected thereto, and also having a low side including an evaporator connected to the output of said expansion valve, and a conduit connecting said evaporator to the inlet of said compression means; an accumulator tank connected in series with said conduit whereby a portion thereof extends into said accumulator and comprises a gaseous refrigerant inlet having its inner extremity spaced apart from both the upper and the lower ends thereof, a second portion of said conduit having an open end terminating within said accumulator tank at a higher level than the end of said extremity, said second mentioned portion of said conduit leading from said accumulator to the inlet of said compression means, and solenoid valve means in communication with the bottom of said accumulator and connected to said second portion of the conduit for delivering refrigerant to said last mentioned portion of said conduit said valve means being actuated by a solenoid which is energized and opens the valve orifice and holds it open in time with the energization of said prime mover so that the valve orifice closes when the prime mover is at rest, and a tell-tale pipe interconnected with said accumulator tank and comprising a vertical pipe which is under the influence of refrigerant in said accumulator and adapted to have the portion thereof above the level of the liquid

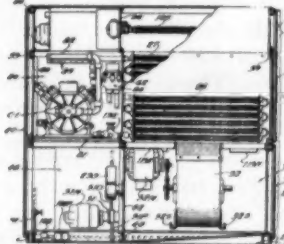
refrigerant in said accumulator coated with frost and to thereby indicate the liquid refrigerant level in said accumulator.

2,770,106. COOLING MOTOR COMPRESSOR UNIT OF REFRIGERATING APPARATUS. Arthur M. G. Moody, La Crosse, Wis., assignor to The Trane Co., La Crosse, Wis., a corporation of Wisconsin. Application March 14, 1955, Serial No. 493,851. 4 Claims. (Cl. 62-117.8.)



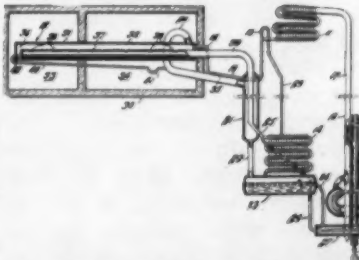
3. In refrigerating apparatus, the combination of an evaporator for vaporizing refrigerant, a condenser for liquefying refrigerant, a compressor for circulating refrigerant through said evaporator and condenser, a substantially cylindrical casing secured in fluid tight contact at one end with said compressor, a motor frame in said substantially cylindrical casing and spaced with respect to said substantially cylindrical casing, partitions between said frame and said substantially cylindrical casing defining a central chamber and two end chambers, a stator secured to said frame, bearings secured to each end of the frame, a shaft and rotor assembly rotatably mounted in said bearings, said shaft and rotor assembly extending into said compressor, said impeller being secured to said shaft and rotor assembly for rotation therewith, fan means secured to said shaft and rotor assembly for moving gas from said end chambers over the surfaces of said stator and thence into said central chamber, means for conducting gas from said evaporator to said end chambers and means for conducting gas from said central chamber to said evaporator.

2,770,107. AIR TO AIR HEAT PUMP APPARATUS. Russell H. Burgess, Chicago, Ill., assignor to Drying Systems, Inc., Chicago, Ill., a corporation of Illinois. Application Feb. 15, 1954, Serial No. 410,203. 4 Claims. (Cl. 62-117.8.)



1. In an air to air heat pump apparatus having inside and outside air-circulating passages and a refrigerating system with heat exchangers in said outside and inside air-circulating passages for a winter heating cycle, means affording a fully closed heat and sound insulated compressor chamber, compressor means forming part of said refrigerating system and mounted and housed within said chamber, and a finned superheater forming part of said refrigerating system and mounted on the refrigerant suction line thereof, said superheater being located in said compressor chamber to heat expanded refrigerant and thereby utilize the compressor heat in the heating cycle of the heat pump apparatus.

2,770,108. ABSORPTION REFRIGERATION. Sigurd Mattias Backstrom, Stockholm, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden, a corporation of Sweden. Application Jan. 21, 1953, Serial No. 332,364. Claims priority, application Sweden, Jan. 23, 1952. 10 Claims. (Cl. 62-119.5.)



6. A refrigerator comprising a cabinet having an interior provided with spaces thermally segregated from one another, an absorption refrigeration system having a circuit for circulation of inert gas including an absorber and low and higher temperature cooling elements in which refrigerant fluid evaporates in the presence of such gas, said low temperature cooling element being arranged to effect cooling of one of said spaces and said higher temperature cooling element being arranged to effect cooling of another of said spaces, first conduit means in said circuit for flowing inert gas from said low temperature cooling element to said higher temperature cooling element and from the latter to said absorber, and second conduit means in

(Continued on next page)

PATENTS

(Continued from preceding page)

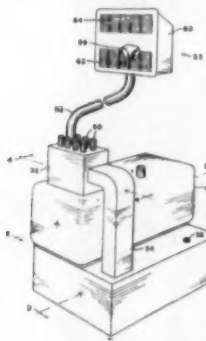
said circuit for flowing inert gas from said absorber in thermal exchange relation successively with said higher temperature cooling element and said low temperature cooling element and then introducing such inert gas into the presence of refrigerant fluid in said low temperature cooling element, said second conduit means also including means for diverting into the presence of refrigerant fluid in said higher temperature cooling element a part of the inert gas flowing therethrough after such gas flows in heat exchange relation with said higher temperature cooling element.

2,770,317. REFRIGERATOR DEHYDRATOR. Edward W. Bottum, Detroit, Mich. Application Oct. 1, 1953, Serial No. 383,534. 1 Claim. (Cl. 183-4.8.)



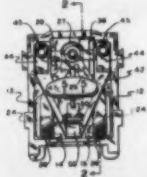
In a dehydrator adapted for placement in a refrigerating system to dehydrate a refrigerant and comprising a hollow casing having inlet and outlet means and a wire mesh bag containing a granular desiccant disposed therein, the improvement consisting of a spring wire positioned in a channel formed by folding and fastening the end of said bag, said spring wire being slightly bowed with the ends thereof engaging the inner wall of said container to firmly position said bag within said container and prevent movement of said bag relative to said container thereby preventing the powdering of said desiccant.

2,770,445. AIR CONDITIONING APPARATUS. Calvin D. MacCracken, Tenafly, N. J., assignor to Jet-Heat, Inc., Englewood, N. J., a corporation of New York. Application June 22, 1953, Serial No. 363,210. 1 Claim. (Cl. 257-9.)



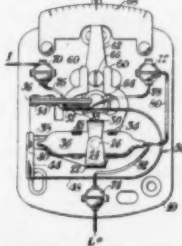
In a diffuser for a forced air domestic heating and cooling system of the type comprising separate hot and cold air delivery units and distributing means for conducting either warm or cold air from said units to a plurality of diffusers, in combination, a casing having air inlet and outlet openings, a nozzle in said casing having a neck portion, a collar forming a channel around said neck portion of said nozzle within which to collect condensate forming on said nozzle, and said nozzle neck having a hole therein adjacent said collar and opening into said channel for diverting into said channel a small portion of the air delivered to said nozzle whereby to evaporate condensate collecting in said channel.

2,770,693. SNAP SWITCH MECHANISM. Lester E. Fickel, Columbus, Ohio, assignor to Ranco Inc., Columbus, Ohio, a corporation of Ohio. Application June 21, 1954, Serial No. 438,014. 3 Claims. (Cl. 200-67.)



1. In a snap switch mechanism, a contact arm having one end free to move in opposite directions, between limits, spaced stops forming limits of movement of said end of said contact arm, a relatively rigid toggle link having one end pivoted to said arm adjacent to said one end, a pair of fixed spaced pivots for said link, one on opposite sides thereof and intermediate the ends thereof, said stops forming alternate pivots for said link when said link is shifted in the directions of said movements of said contact arm, a spring having one end pivotally connected to the other end of said link and urging said link in the direction of its said one end and to one or the other of said fixed pivots, and means pivotally connected to the other end of said spring for moving said spring generally parallel to the movement of said one end of said contact arm to shift the line of force of said spring from one side to the other of the longitudinal centerline of said link.

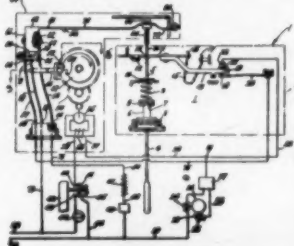
2,770,699. THERMOSTATIC CONTROL DEVICE. Paul F. Shivers, Minneapolis, Minn., assignor to Robertshaw-Fulton Controls Co., Greensburg, Pa., a corporation of Delaware. Application June 23, 1955, Serial No. 517,511. 11 Claims. (Cl. 200-138.)



2. In a thermostatic control device, the combination comprising a pivotally mounted mercury switch movable from one angular position to another for controlling the flow of electric energy, a bimetallic element operatively connected to said mercury switch for varying the angular position of said mercury switch in response to variations in temperature of said bimetallic element, and manually operable means for varying the angular position of said mercury switch, said bimetallic element being bent to substantially enclose said mercury switch whereby substantially the entire surface of one side of said bimetallic element will be directly exposed to the surrounding air.

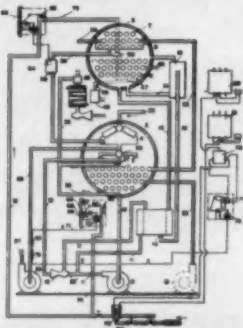
Week of November 20

2,770,952. REFRIGERATOR CONTROL SYSTEM. Edwin B. Judd, Morrison, Ill., assignor to General Electric Co., a corporation of New York. Application June 30, 1953, Serial No. 365,158. 13 Claims. (Cl. 62-4.)



1. In a refrigerator having a door, a compressor motor adapted to be connected to an external source of power, and a heater arranged to defrost said refrigerator and adapted to be connected to said source of power; a temperature control device comprising temperature responsive means including means adapted to sense a temperature in said refrigerator, a first pair of contacts adapted to be connected in circuit with said motor, operating means actuated by said temperature responsive means arranged to close said first pair of contacts thereby energizing said motor at a first predetermined upward temperature and to open said first pair of contacts thereby deenergizing said motor at a second predetermined lower temperature, timing means operable in response to said door being open at the same time said motor is energized, a second pair of contacts adapted to be connected in circuit with said motor, a third pair of contacts adapted to be connected in circuit with said heater, means actuated by said timing means arranged to open said second pair of contacts thereby deenergizing said motor and to close said third pair of contacts thereby energizing said heater after a predetermined period of operation of said timing means, and tripping means actuated by said operating means arranged to again close said second pair of contacts thereby energizing said motor and to open said third pair of contacts thereby deenergizing said heater at a third predetermined upper temperature above said first predetermined temperature.

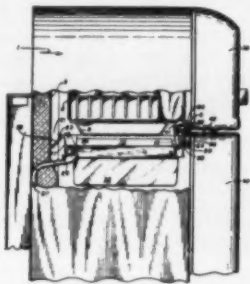
2,770,953. CONTROL ARRANGEMENTS FOR ABSORPTION REFRIGERATING SYSTEMS. Louis Howell Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application April 8, 1955, Serial No. 500,140. 13 Claims. (Cl. 62-5.)



1. In an absorption refrigeration system, the combination of an absorber, an evaporator, a generator and a condenser, said generator including tubes to which steam or other vapor is supplied in heat exchange relation with solution exteriorly of the tubes, and means for rendering at least a num-

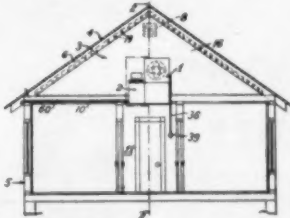
ber of the tubes ineffective to extract latent heat from the steam responsive to a change in load imposed upon the system.

2,770,954. BAFFLE AND MOUNTING MEANS IN REFRIGERATOR. Robert Alexander Jansen, Cincinnati, Ohio, assignor to Avco Mfg. Corp., Cincinnati, Ohio, a corporation of Delaware. Application Nov. 23, 1951, Serial No. 258,665. 7 Claims. (Cl. 62-117.3.)



7. In combination, a refrigerator cabinet including interior walls, an evaporator within said cabinet surrounded by said interior walls, a defroster-heater contacting said evaporator and having portions disposed beneath said evaporator substantially parallel thereto, an adjustable bracket secured to one of said interior walls for adjustment vertically relative to said evaporator and said defroster-heater, a relatively fixed bracket secured to one of said interior walls remote from said adjustable bracket, and a baffle in supported engagement with said brackets, adjustment of said adjustable bracket varying the vertical position of said baffle for bringing it into close proximity with said parallel portions of said defroster-heater.

2,770,955. AIR-CONDITIONING DEVICE FOR AN ATTIC. Allan W. Lundstrum, Columbus, Ohio. Application May 17, 1954, Serial No. 430,364. 13 Claims. (Cl. 62-129.)

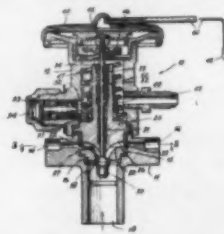


1. An air-conditioning unit comprising a ventilating unit for transferring air in a confined stream optionally from either of two separate spaces into an independent space; a refrigerating unit for cooling the air of one of said separate spaces while the ventilating unit is transferring air from the other to said independent space, said ventilating unit having a ventilating fan for drawing air from said separate spaces and discharging it into said independent space and having valve means at the intake side of said fan for confining the suction of said fan to one of said separate spaces at a time, said valve means being positionally adjustable for transferring the suction of said fan from one to the other of said separate spaces at will, and said refrigerating unit having a condensing coil disposed in the path of the air discharged by said fan, said fan having an air-moving capacity greater than that required for the necessary cooling of said condensing coil; and means actuated by said valve means for controlling the operation of said refrigerating unit in response to the position of said valve means.

2,771,062. MULTI-OUTLET EXPANSION VALVE. John A. Schenk, Clayton, Mo., assignor to Alco Valve Co., University City, Mo., a corporation of Missouri. Application Jan. 23, 1953, Serial No. 332,859. 4 Claims. (Cl. 137-561.)

1. In a multi-outlet valve construction: a body member having an inlet and a plurality of outlets, the outlets being generally circularly arranged about the inlet but being axially displaced therefrom; a partition wall providing a valve port adjacent the inlet, the valve port being transverse to the axis about which the outlets are disposed, the wall on the outlet side of the valve port diverging from the valve port outwardly and axially around the axis of the outlets to adjacent the outlets in a smooth, substan-

tially continuous shape; a second wall spaced from the first, extending from adjacent the port to adjacent the outlets, and of a shape corresponding to



the first so that the two provide a distribution passage flaring outwardly from the valve port to the outlets; a valve movable toward and from the valve port; and the total area of the outlets being from 1.5 to 4.5 times the effective area of the valve port when fully opened.

2,771,155. UNIT FILTER LATCH. Robert A. Palmore, Louisville, Ky., assignor to American Air Filter Co., Inc., Louisville, Ky., a corporation of Delaware. Application Dec. 14, 1953, Serial No. 397,981. 7 Claims. (Cl. 183-49.)



6. An article of manufacture comprising: an auxiliary frame having a front opening to receive a filter cell and a rear sealing flange; a latch arm having a stem and a laterally extending

resilient head; and means pivotally mounting on the stem on the frame between the side wall of the frame and the adjacent cell receiving space for twisting movement about the long axis of the stem from a latching position in which the head extends over the cell receiving space to a cell releasing position in which the head extends at least partially into the space between the side wall in which it is mounted and the cell receiving space; said resilient head being outwardly springable relatively to the stem from said cell releasing position, toward which the head is biased and in which it can not clear the cell space when turned toward the latching position, to an outer position, in which it can clear and be moved over the cell space, said head being operable, when moved over the cell space and released, to engage a front margin of the cell in the cell space and urge the cell rearwardly into engagement with the ceiling flange.

(To Be Continued)

SALES REPRESENTATIVE WASHINGTON, D. C.

If you have experience selling air conditioning and refrigeration units investigate this opportunity. One of the top AC&R companies wants man capable of establishing and servicing dealerships in Washington area. Must have thorough knowledge of design, layout, estimating, and installation of REMOTE air conditioning and refrigeration equipment up to 150 hp. Salary plus incentives, with above average benefits backed up with a nationwide advertising program. This is a career opportunity with an expanding organization.

For complete information, send resume to R. C. Hughes, Director of Training, Worthington Corporation, Harrison, N. J.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

AIR CONDITIONING — refrigeration journeyman: Wishes offer to settle Southern Florida. Age 32, with family, 13 years' in the field, all phases of commercial installation and service. Presently employed installation foreman, N. J. Trade references, resume on request. Traveling in this area, latter part of month. BOX A5754, Air Conditioning & Refrigeration News.

SALES AND advertising manager, practical engineer, air conditioning, heating and ventilation; also commercial refrigeration. Over twenty years' experience. Would like to hear from manufacturer. Now in Detroit. Would relocate. BOX A5755, Air Conditioning & Refrigeration News.

SERVICE MANAGER or field service trouble shooter—in business since 1928. All horsepower, all temperatures, subzero to air conditioning. Organization, supervisor, training experience. Over seven years instructor trade school. Can handle organization of any size or scope. Familiar with sub-contractor and dealers relationship. BOX A5756, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVE: Leading manufacturer of commercial, industrial air conditioning and refrigeration equipment has available St. Louis territory franchise. If your organization now offers engineering and sales services to the refrigeration and air conditioning trade we know you will be interested in our complete line of packaged chillers, air handlers, cooling towers, evaporative condensers and allied heat exchange equipment. Forward resume to ACME INDUSTRIES, INC. c/o Chase Hotel, St. Louis, Mo. Local interviews March 13 and 14 by D. G. Merrill.

OPPORTUNITY FOR manufacturer's representative: To increase your earnings, sell a full line of freezers, beverage coolers, display cases, dual temperature reach-ins and walk-ins. We manufacture a quality line to meet competition. Territories now available, write HOWARD REFRIGERATOR CO., INC., 4475 Worth Street, Philadelphia 24, Pa.

HIGHLY-SKILLED REFRIGERATION mechanic to install and service residential and commercial air conditioning units. Excellent pay, good working conditions and year around job. Write JERRIE KEITH COMPANY, INC., P. O. Box 590, Borger, Texas, stating qualifications and previous job experience.

EQUIPMENT WANTED

WANTED USED refrigerators in working condition—Large lots of same model from apartments or projects, anywhere in U. S. No assorted trade-ins. BEACH REFRIGERATOR CO., 196-11 Northern Blvd., Flushing 58, New York. Phone Flushing 7-6161.

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shutoff valves, controls, relays, dehydrators, units, tubing fittings, etc. All sales on a cash close-out basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, N. Y. ORegon 3-7210.

EQUIPMENT FOR SALE

ARCTICAIRE AIR conditioning equipment 2, 3 and 5 ton packaged water chillers, air or water cooled. Direct expansion air conditioning systems 2, 3 and 5 ton, air or water cooled, self contained and remote types. Write for literature and prices. ARCCO, MANUFACTURERS AGENTS, INC., Merchandise Mart Bldg., 2201 Grand Avenue, Kansas City, Missouri.

FOR SALE: Sheeting felt—Armstrong #323, 3,000 new sheets 3' x 3' x .365". Must be sold immediately. ROBERT KREVITZ CO., 4233 Leiper Street, Philadelphia 24, Pennsylvania.

NEW BRASS fittings: Quantity of miscellaneous Mueller flare and Streamline brass fittings in 1/4, 1/2, 3/4 and 1" refrigeration tube size. Closing out our stock of these and other refrigeration items at below present day factory cost. Write for list. SARGENT-ROUNDTY CORPORATION, Randolph, Vermont.

BUSINESS OPPORTUNITIES

FOR SALE or lease: Commercial refrigeration, air conditioning & oil burner service sales company. Located in Virginia on the Atlantic coast, oldest service company in this area, good service contracts and potential, now netting \$20,000.00 on \$50,000.00 gross. Will sell or lease on percentage of income. Owner's health requires move to dryer climate, for information BOX A5757, Air Conditioning & Refrigeration News.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR; 2833 Lincoln Avenue, Chicago 13, Illinois.

SEE IT AT YOUR WHOLESALE
FROM COAST TO COAST

NEWEST KESCO AUTOMATIC
20 FOOT LIFT
CONDENSATE PUMP

HALF INCH WATER STARTS PUMP
MONEY BACK
GUARANTEE

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PRODUCTS CORP.
Est. 1944
Springfield Gardens 13
New York





Cory Commercial Products Sales Manager Ed Alexander (l.) and Chicago Territory Manager Ken Craig discuss installation possibilities of the new Fresh'nd-Aire water-cooled commercial air conditioners. Available in 2, 3, and 5-hp. sizes, these units feature "Stack 'n Cool" design and an exclusive "Clean-o-Matic" filter signal. The new Fresh'nd-Aire models also include air-cooled commercial and residential systems.

Fresh'nd-Aire --

(Concluded from Page 1, Col. 2) ventional room units ranging in size from 1/2 to 2 hp.

The Fresh'nd-Aire residential air conditioner line will include two different series. In one group are 2 and 4-hp. air-cooled self-contained residential units. These models "are designed to install quickly in attics, crawl spaces, and basement walls to air condition multi-room residences and businesses of comparable size," it was pointed out.

The water-cooled residential packaged series will feature 2, 3, and 5-hp. units for "add-on" installation in homes.

For stores, offices, restaurants, cocktail lounges, shops, and general commercial use, Fresh'nd-Aire will offer two separate series of water-cooled commercial air conditioners in 2, 3, and 5-hp. sizes.

"Popularly known as 'store coolers' to the trade, that series will spotlight such exclusive features as a 'Stack 'n Cool' design plus the new 'Clean-o-Matic' filter signal," it was stated. "These models are installed in a great variety of set-up combinations by merely stacking the three components—the compressor section, the blower section, and plenum—to solve the cooling problems at hand.

"For commercial installation 'outside of' the area to be air conditioned, Fresh'nd-Aire will offer 2, 3, and 5-hp. units. In this series, these are water-cooled packaged systems.

"Where floor space or water is a problem, the new Fresh'nd-Aire line will include air-cooled commercial models also available in 2, 3, and 5-hp. sizes. These packaged air conditioners consist of an air-cooled, weather-proofed exterior condensing cabinet and the interior cooling coil and blower housing."

For 1957, the new Fresh'nd-Aire residential and commercial air conditioning systems "will be marketed through a selected group of present Fresh'nd-Aire distributors who possess adequate facilities for proper installation and service," the company said.

NCRSA Enrolls 11 New Members

PHILADELPHIA — Recent enrollment of 11 new distributor members has been announced by the National Commercial Refrigerator Sales Association.

They include Sam Alexander Refrigeration, Fresno, Calif.; Delmar E. Brown—Engineered Refrigeration, Bakersfield, Calif.; Carpel Refrigeration Equipment Co., Washington, D. C.; Hussmann Refrigeration, Inc., Dallas; Hussmann Refrigeration, Inc., Houston, Texas; Market Equipment, Ltd., Honolulu, Hawaii.

Also, Modern Store Equipment, Inc., Youngstown, Ohio; J. A. Moore, Jr., Equipment Co., Kinston, N. C.; Peninsula Refrigeration Co., Palo Alto, Calif.; Terreau & Racine, Ltd., Quebec, Can.; and Triangle Refrigeration Co., Montreal, Que., Can.

Missouri Conditioning Conference Announces March 18-20 Program

COLUMBIA, Mo.—The 4th annual Air Conditioning Conference at the University of Missouri, March 18, 19, and 20 here, will combine with it a joint meeting of the St. Louis, Kansas City, and Wichita sections of the American Society of Refrigerating Engineers.

The conference will again be under the direction of Prof. Milo M. Bolstad of the department of mechanical engineering, College of Engineering, University of Missouri.

The joint meeting of the three ASRE sections will be a dinner meeting Monday night, March 18, at the Tiger hotel.

There will be two talks at this session. "Noise and Acoustics" will be presented by Ed Myers, Gustin-Bacon Co. "Air Condi-

tioning at Kodak Park" will be presented by L. C. Engelhardt, Department Head, Refrigeration Dept., Eastman Kodak Co.

All other conference sessions will be at the Memorial Student Union of the University of Missouri.

The conference will open at 1:30 p.m. Monday, March 18 with a discussion of "Calculation of Cooling Loads."

The daytime sessions on Tuesday, March 19, will include the following talks:

"Layout of Low Velocity Duct Systems," Fred Hagee, Worthington Corp.

"Layout of High Velocity Duct Systems," by a representative of the Tuttle-Bailey Co. "Piping for Refrigeration

and Air Conditioning," Fred Ladewig, The Trane Co.

Forum on Legislation Affecting the Air Conditioning Industry located in the State of Missouri.

A banquet on Tuesday night, March 19, will have as its speaker Ralph Gonzales, Director of Technical Service, Airtemp Div., Chrysler Corp., speaking on "Lessons from the Austin Air Conditioned Village."

There will be two talks at the final session March 20. "The Architect, The Mechanical Engineer, The Contractor, and the Air Conditioning System," will be presented by Harold Brehm, mechanical engineer with Helmut, Obata, and Kassabaum, architect, St. Louis.

"The Market for Air Conditioning in 1957—and Beyond" will be the subject of a talk by Phil Redeker, editorial director, AIR CONDITIONING & REFRIGERATION NEWS.

TWO TO FIFTY

LARKIN COOLING TOWERS NOW AVAILABLE IN 18 MODELS—2 TO 50 TONS CAPACITY



Success is Built On These Features

- All models available with propeller fan. Centrifugal blower optional on all models through 20 tons
- Wetted surfaces are of all-heart redwood, with nailless, interlocked construction, and are easily removed
- More wetted surface assures conservative ratings
- Bolted construction—unit is easily dismantled in the field all the way down to the sump
- Panels are 16-gauge and sump is 12-gauge steel
- Entire unit finished with epon base, zinc-chromated primer, and two coats of melamine baked-on enamel
- Mastic-coated interior
- Intake screen available as optional equipment
- Two- and three-ton models with fan have direct-drive, totally-enclosed motors. All other models are belt-driven with drip-proof motors

- Propeller fan and blower assembly are easily inter-changeable in the field
- Centrifugal blowers have self-aligning graphited bronze sleeve bearings mounted on outside for easy lubrication
- Belt-driven propeller fans have oil-impregnated bronze bearings with oil line and cup for easy oiling
- Stainless steel shafts on belt-driven propeller models
- Blowers and propeller fans are hot-dip galvanized and dynamically balanced after fabrication
- All-bronze float and float valve
- Gravity-type distribution basin—low pumping head over tower
- Distribution basin cover supplied as standard equipment
- Water outlet in sump has large strainer and anti-cavitation plate, easily removed for cleaning

From every corner of America came praise for the LARKIN Water Saver Cooling Tower. "It's great—so great that we want the same thing in larger capacities."

Here it is. The LARKIN Water Saver is now available in 2, 3, 5, 8, 10, 16, 20, 25, 30, 40, and 50-ton models. On the larger models, you'll find

the same fine features that made the two-through-twenty series a smashing success.

And remember, the LARKIN Water Saver is also a money-saver—sells at a price that gives you a competitive edge. It will pay you to get in touch with your wholesaler now, or write us for additional information.



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